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New Directions for the Federal Budget?

The Federal budget reflects much of the history of the nation. Changes both on the revenue side and the spending side highlight 200 years of conflicts and compromises about the economic, political, and social priorities of the country. Within the past half century, moreover, the Federal Government has become one of the major influences on the nation's life. Much of the time, the changes have been evolutionary and gradual. Sometimes, however, as during the depression of the thirties, a compass change is clearly evident. Is the nation now on the threshold of another significant budget shift?

The recent Presidential campaign indicated that both candidates favored a curb on the expansion of the Federal Government and an improvement in its effectiveness. These objectives seemed to reflect the sentiments of a substantial portion of the electorate. The Congress, for its part, has instituted new budget procedures to assert control over spending. Altogether, forces to hold down the size of the budget seem to be at work.

Despite these auguries, the prospects for significant restraints on spending are uncertain. Developments since World War II point the other way: Federal spending has increased more than twelvefold since fiscal 1947. Even after adjusting for inflation, Federal spending is almost three times higher than in 1947. Moreover, the current state of public opinion suggests that there is considerable ambiguity about how conflicting pressures on budget making will be reconciled. While the citizenry seems to favor less government, the national government is increasingly asked to tackle problems that used to be the responsibility of the private sector, or of state and local governments, or that had previously not been viewed as problems. The growth of the economy, which often helped to solve problems in the past, is a less certain solution today for two

reasons. One is the question of whether satisfactory levels of economic growth can now be attained as easily as before. The other is the difficulty of making growth compatible with improved practices in regard to the environment.

Whenever the economy operates below capacity, there is bound to be pressure to use stimulative fiscal policy in order to promote greater economic activity and to reduce unemployment. However, spending measures and temporary tax cuts for countercyclical purposes tend to undercut the prospects for curtailing outlays and for permanent tax reductions. At present, the spending problem is accentuated because there are strong pressures to do more about newer concerns with respect to energy, pollution, and health. At the same time, some older concerns, such as the structural problems of high unemployment among teenagers, Vietnam veterans, and workers in urban areas as well as the pressure to relieve poverty, give little sign of abating.

The wish to reduce taxes clearly collides with the demand for new or expanded programs. It is not very likely that this conflict can be resolved by the new Congressional budget techniques and by proposed new procedures, such as sunset laws and zero-base budgeting. Sunset laws automatically terminate existing programs at specified dates; zero-base budgeting requires that spending for existing programs be justified each time an additional appropriation is under consideration. Techniques can only lead to efficient decision making after a consensus on priorities has been reached. Consensus is elusive because well-organized special interest groups can often mount heavy pressures to continue or to expand particular programs. What the new budget procedures *can* do is to pose for the Congress in unavoidable form the central question of economics: how to allocate scarce

means—in this case Government revenues—among alternative uses—in this case Government outlays.

Budget processes old and new

As the size of the budget grew, a general dissatisfaction with the Congressional budget process became increasingly evident by the late sixties and seemed to pick up momentum in the seventies when inflation accelerated. In 1969, a *New York Times* story carried the headline “Treasury Secretary Warns of Taxpayers Revolt”. A recent Brookings Institution study reported that “Ten years ago, government was widely viewed as an instrument to solve problems; today government itself is widely viewed as the problem”.¹ Solutions for the varied fiscal maladies were many, but there was one that cut across political, economic, and social differences—the Congress should get the budget under control. In hearings held on proposals for improving Congressional control over revenues and spending, support for such legislation was widespread and included members of the Congress, business leaders, university professors, and public interest groups. Congressman Al Ullman, chairman of the House Ways and Means Committee, testifying in 1973, said:

. . . the clear intent of the Constitution is that the Congress does have the power of the purse, that Congress does levy the tax and determine the expenditures Yet, under the procedures we follow today [1973] we have virtually handed all of this over to the Office of Management and Budget—something not intended by the Constitution.

At the same hearing, Roy L. Ash, the incumbent Director of the Office of Management and Budget (OMB), said:

Congressional actions that affect the budget are taken piecemeal and are uncoordinated for the most part.

Until the passage of the Congressional Budget and Impoundment Control Act on July 12, 1974, the budget process in the Congress was fragmented; indeed, there was virtually no satisfactory Congressional control over total Federal spending. In addition, the Congress had no committees charged with consolidating the various pieces of budget legislation into a meaningful whole as they entered the legislative hopper. Nor did it have a staff that could have provided it with such an overview. The new budget control act established a Budget Committee in the House and in the Senate to coordinate budget policy. It also established a Congressional Budget Office (CBO) to provide information and analysis comparable to that which the OMB pro-

vides the executive branch. The new structure operated on a preliminary, nonbinding basis during fiscal 1976. The new arrangements became mandatory beginning with the fiscal year 1977 that started on October 1, 1976 and that will run through September 30, 1977.²

The 1974 budget act sets up a timetable for the Congressional budget process. This timetable is designed to insure that all appropriation bills for a new fiscal year are completed before a current fiscal year ends. In recent years, it was common for some appropriations to be passed after a new fiscal year had begun—occasionally as long as six months after. The act also requires the Congress to set an appropriate level of Federal receipts and outlays, determine budget priorities, and review any decisions by the President to impound any funds for programs already under way.

The new budget timetable is summarized in the accompanying box. In addition to setting new requirements, the act integrates previously existing executive and Congressional schedules. This integration should enable the Congress to exercise better control over spending and taxation and to assess the impact of the emerging budget on the economy. Under the new procedures, the President still submits his budget at approximately the same time in January as in the past; the present schedule specifies it be done by the fifteenth day after the Congress convenes. The actual budget process, of course, begins well before the President submits his budget, for that document represents the culmination of budget making within the executive branch. A new part of the whole budget process is the requirement laid down by the Congress that the President submit to it a “current services budget” much earlier—by November 10.

The current services budget

The current services budget is meant to provide a bench mark or baseline against which any changes later proposed by the President or by the Congress can be measured. A current services budget is one that estimates Federal tax and spending programs on the assumption that they are continued without any change in policies. These estimates are presented for the current fiscal year and also for the fiscal year ahead. This budget must also take into account the effects of expected changes in economic activity or

² Starting with the current fiscal year, fiscal years will run from October 1 through September 30 of the succeeding year. Fiscal years are identified by the year in which they end. From 1921 through fiscal 1976, the fiscal year of the Federal Government began on July 1 and ended on the following June 30. The shift from fiscal 1976 to the current fiscal year, 1977, left the July 1-September 30, 1976 quarter unattached to any fiscal year, and the period is officially known as “the transition quarter”.

¹ H. Owen and C.C. Schultz, eds., *Setting National Priorities, the Next Ten Years* (Washington, D.C.: Brookings Institution, 1976), page 7.

of other trends. Examples of such changes are higher or lower levels of unemployment or inflation, variation in the number of social insurance beneficiaries, or variation in the number of recipients under programs that are mandated by existing legislation, such as those for veterans.

In the document submitted to the Congress last November, the Ford administration chose to submit four alternative current services budgets based on four alternative sets of economic assumptions or paths. These alternatives for calendar 1977 projected a gross national product (GNP) ranging from \$1,874 billion to \$1,905 billion, an unemployment rate ranging from 6.4 percent to 6.9 percent, and an increase in the GNP deflator (a measure of the general inflation rate) ranging from 5 percent to 6.5 percent. Total budget revenues under the four paths varied by almost \$20 billion, but total spending varied by only about \$6 billion. Under the new budget procedures, the Joint Economic Committee of the Congress (JEC) must evaluate whether the President's current services budget is reasonable. The range of estimates submitted for the fiscal 1977 and 1978 current services budgets was judged to be reasonable by the JEC.

The standard appropriation process

Following the usual practice, President Ford presented a budget message in January accompanied by documents that gave a detailed and comprehensive view of Federal spending and receipts. It contained revisions for the current 1977 fiscal year and a proposed budget for the next year, fiscal 1978. The fiscal 1978 document also contained budget projections through fiscal 1982. The revenue and spending estimates for fiscal 1978 and subsequent years, of course, combined the continuance of existing programs, the phasing-out or elimination of other existing programs, and proposed programs for which new legislation would have to be enacted.

The standard procedure has been and continues to be that each new activity of the Federal Government—or the expansion of an old activity—must be authorized by a bill which has been passed by both houses of the Congress and has been signed by the President.³ Such bills are considered first by the appropriate legislative committee (in both the House of Representatives and the Senate) responsible for the subject the bill addresses. If necessary, the bill includes an *authorization* to appropriate up to a specified amount of money

³ Some bills, of course, are passed over a Presidential veto, and a few bills have become law without Presidential signature under the Constitutional provision that, if the President does not sign or veto a bill, it becomes law after ten days provided that the Congress is then in session.

Timetable for budget action

<u>On or before:</u>	<u>Action to be completed:</u>
November 10	President submits current services budget
Fifteen days after the Congress convenes	President submits official budget
March 15	Committees and joint committees submit reports to budget committees in House and Senate
April 1	CBO submits report to budget committees
April 15	Budget committees report first concurrent resolution on the budget to their respective houses
May 15	Legislative committees report bills and resolutions authorizing new budget authority
May 15	Congress completes action on first concurrent resolution on the budget
Seventh day after Labor Day	Congress completes action on bills and resolutions providing new budget authority and new spending authority
September 15	Congress completes action on second required concurrent resolution on the budget
September 25	If necessary, the Congress completes action on reconciliation bill or resolution, or both, implementing second required concurrent resolution
October 1	New fiscal year begins

for the program. If the committees approve, the bill is brought to a vote before the full membership of each branch of the Congress. If the bills passed by the two houses differ in any respect, these differences must be resolved by a conference committee composed of members of the two houses. If there is an acceptable resolution, then identical bills are resubmitted for passage in each house and transmitted to the President for signature.

Actual authority to spend funds typically involves a further step—the passage of the *appropriation* bill, again by both houses of the Congress. (The stated amount on the appropriation bill may be no more, but may be less than, the amount in the authorization bill.) The appropriation bill must also be signed by the President. An appropriation specifically permits a Federal agency to order goods and services and to draw funds from the Treasury to pay for these goods and services as well as to meet payrolls up to some stated amount. Other spending may take the form of transfers of funds to state and local governments, to individuals, or to governments abroad and inter-

national agencies.⁴

Spending in any single fiscal year is always made up of a combination of spending from some appropriations carried over from previous years as well as from appropriations newly legislated. For example, the Ford administration's January budget document estimated that \$129.2 billion would be spent in fiscal 1978 from the pool of previously authorized appropriations and that an additional \$310.7 billion would come from new appropriations for new programs or to continue existing programs.

Since World War II, a practice has developed whereby the President may instruct the Bureau of the Budget (now the OMB) to hold spending for a particular activity below the amounts the Congress had appropriated. The Congress has increasingly viewed this practice as an infringement on its Constitutional prerogative to determine the appropriate amount of spending by the Federal Government, and the Congress has now passed legislation to assert its control. If a President wishes to withhold or postpone funding for an existing program, under the new Congressional control system he must send a special message to the Congress. The House and the Senate must approve such a rescission bill within forty-five days if the rescission is to become effective. In contrast, if the President wishes to defer spending temporarily, Congressional approval is not required, but the deferral can be denied if one house passes a resolution against the proposal.

Steps to the first concurrent resolution

Under the new timetable for Congressional action on a proposed budget, the various committees with responsibilities for particular segments of budget legislation must report to the budget committee of their house by March 15. These reports give dollar estimates for the programs in their jurisdictions, for instance, social security, transportation, taxes. At the same time, the CBO and the budget staff in each of the houses are busy analyzing the President's proposals, drafting preliminary budget resolutions, and preparing reports that answer questions on the budget that are posed by various Congressional committees. By April 1, the CBO is required to present to each budget committee a report on alternative budget possibilities with respect to total revenues and expenditures and their major categories, as well as a discussion of national budget priorities. At the same time, each budget committee is preparing a similar budget package. By

April 15, the budget committee in each house must submit its suggested first concurrent resolution on the budget for the next fiscal year. The committees, of course, take into account the material sent to them by the CBO on April 1.

After April 15, within the guidelines of the proposed first concurrent resolutions—they are really preliminary budgets—the contours of the Congressional budget begin to take on more specific form. Between April 15 and May 15, the first concurrent resolution must be debated and passed by both houses. Any differences between the two must be resolved in conference, and the final conference report must be passed by both houses before May 15. In addition, by May 15 the legislative committees in both houses are required to have reported out all programs requiring authorizations. The first concurrent resolution establishes the target for total receipts and outlays and for the deficit or surplus that the Congress aims to achieve. Moreover, the spending total must be broken down into seventeen major categories.

Steps to the second concurrent resolution

After May 15, all the Congressional committees continue to work on the proposals within their jurisdictions. They keep in mind the dollar limits set in the first concurrent resolution and aim to complete action on the necessary individual bills by the seventh day after Labor Day. During this period, a committee might seek to raise its tentative target, which would then create adjustment problems for the total budget. These problems can be resolved in a variety of ways, including the cutting of other spending programs or even by increasing revenues.

Action on the second concurrent resolution must be taken by September 15. This resolution sets final totals on the major categories of revenue and spending. Given the spending total and the revenue total, there should then exist a specific deficit or surplus that the Congress is deliberately identifying as its goal for that budget. This is most noteworthy, since until last year there had been no requirement for such an explicit decision by the Congress. The second concurrent resolution changes the spending targets of the first resolution to spending ceilings and the revenue targets to revenue floors.

If the Congress cannot reach agreement by September 15, the legislation provides only a ten-day period for it to iron out its differences. However accomplished, joint agreement on a second concurrent resolution must be achieved no later than September 25. Consequently, when the coming fiscal year begins on October 1, the budget totals for that year are already set. There can still be changes made if the Congress decides that

⁴ For ongoing programs, many of which represent long-term national commitments, the appropriations process is somewhat different from the one described above. A prominent example is the funding of the social security programs.

there is a need for new initiatives or for modification of existing programs after the fiscal year begins. Such changes would require further concurrent resolutions.

Among the more important reforms of the budget act is a built-in antifilibuster device. To prevent delays by filibuster in the Congressional budget process, the reform legislation not only sets deadlines for each step, but also sets specific time limits for debate. In the case of the Senate, for example, the law states that "Debate in the Senate on any concurrent resolution on the budget . . . shall be limited to not more than 50 hours. . . ."

Experience with the new process

The effectiveness of the new procedures was illustrated by the way the timetable operated to shape the budget for the current fiscal year. Last May, the first concurrent resolution for fiscal 1977 placed total expenditures at \$413.3 billion, some \$20 billion higher than the proposed spending total for fiscal 1977 in the budget President Ford presented in January 1976. The larger expenditures proposed by the Congress, according to an analysis by the staff of the House budget committee last spring, would have increased employment by about one million persons more than was implicit in the President's budget. The \$413.3 billion total itself represented a compromise between differences that had existed earlier between the House and Senate over the size of the proposed jobs programs. The House had proposed higher outlays, including more spending on public works.

As with the first resolution, the proposed second concurrent resolutions passed by each house were not identical. But the differences this time were relatively minor and easily reconciled. A few weeks earlier, however, there had been considerable concern over the substantial divergences between the Senate and the House on the proposed tax legislation. The Senate wanted tax cuts much larger than the House did, not only for fiscal 1977 but also for succeeding years. Eventually, the reconciliation kept revenues, and therefore the deficit, close to the totals that had been set in the first resolution.

The disappointing course of the economy after passage of the second concurrent resolution last fall convinced President Carter by the time he took office that it was prudent to try to stimulate the economy further. He therefore proposed a \$31 billion package of tax cuts and job creation programs, mostly for fiscal 1977 and 1978. Consequently, the Congress had to work on a third concurrent resolution incorporating these changes. Once again the versions passed by the House and the Senate differed, for the two bodies augmented President Carter's proposals by different amounts. Passage of the third concurrent resolution

was achieved on March 3. It added \$4.4 billion to spending and reduced expected revenues by \$14.8 billion. The estimated deficit for fiscal 1977 was thereby raised to \$69.8 billion, \$19.3 billion above that of the second concurrent resolution, although the stimulus package itself had not been passed.

Assessment of the new budget controls

Any assessment of the new budget controls must take into account a loophole in the coverage of the budget. Some Governmental agencies, such as the Postal Service and some of the lending agencies, are not included in the budget. Outlays by these agencies were \$7.2 billion in fiscal 1976, and the estimate for fiscal 1977 is \$10.8 billion.⁵

If Congressional control over Federal Government activities is to be comprehensive, these off-budget organizations should be put into the budget. Under current arrangements, the financing of existing off-budget agencies is exempt from the provisions of the Congressional Budget and Impoundment Control Act of 1974, but there is no bar to prevent the Congress from putting them into the budget. Until the off-budget agencies are brought explicitly under budget control procedures, a significant and perhaps widening gap in spending control will remain.⁶

When the new budget control system was adopted, it was viewed with considerable skepticism. Previous attempts to control spending had little impact. The spending ceilings in effect for a few years contained too many exceptions. The ceiling on outstanding Treasury debt that is still in existence has proved to be ineffective. More significantly perhaps, the new system interposed another layer within the existing Congressional structures. The new budget committees, with their responsibilities to set and to monitor binding ceilings on spending and to implement desired goals for revenues, encroach on the domains of existing committees. Political observers wondered whether these

⁵ These agencies finance some of their operations from funds obtained by borrowing, chiefly from the Federal Financing Bank (FFB), which in turn obtains its funds from the Treasury. Consequently, Treasury borrowing from the public is higher than the amount required to finance the recorded budget deficit.

⁶ As defined in the budget document, "off-budget entities are federally owned and controlled, but their transactions have been excluded from the budget totals under provision of law". Some agencies are completely off-budget, such as the Pension Benefit Guaranty Corporation. Only a portion of the activities of some agencies are off-budget, such as the programs for the housing of the elderly and of the handicapped in the Department of Housing and Urban Development (HUD). Off-budget agencies must be differentiated from Government-sponsored agencies, such as the Federal Home Loan Banks (FHLB) and the Federal National Mortgage Association (FNMA), which are privately owned and operated and therefore completely excluded from the budget. These agencies borrow in the capital market by issuing their own debt instruments.

committees would allow their strongly entrenched powers to be eroded. After the first year of operation, however, the consensus was that the new system had been successfully launched. Continuing success, nevertheless, is far from a foregone conclusion. A tradition of solid achievement in Congressional budget control must be built to help safeguard the integrity of the new procedures. They should not become empty rituals.

Perspectives on the budget

The bulk of spending under any new budget is based on legislative programs that have been in existence for years, even though in many cases new appropriations are required annually. Any new initiatives on spending and taxation are just the tip of the total budget iceberg. New initiatives, however, are likely to affect future budgets significantly. To understand any new budget, it is therefore helpful to review how it has evolved in size and in composition. Such a perspective

can be gained by examining data from two related, though different views of the Federal Government—the view provided by the unified budget and the view provided by the Federal sector of the national income accounts (NIA).⁷

Taking the span of years since World War II, total unified budget Federal receipts and expenditures broadly trace a similar growth trend, although revenues move more erratically. After 1946, revenues typically fell short of spending; there have been only eight years of surpluses. For many years the deficits were generally small—under \$5 billion (Chart 1). But beginning with fiscal 1971, deficits in the unified budget—with the exception of two years—were larger than \$23 billion, and they reached a historic peak of \$66.5 billion in the last fiscal year.

The cumulative deficit for the fiscal years 1947 to 1976 is more than \$238 billion, which raised outstanding Federal debt on June 30, 1976 to \$620 billion. A sizable portion of this debt, \$150 billion, was held by the Government itself. Another sizable portion, \$95 billion, was owned by the Federal Reserve System. Privately held net Federal debt has increased from \$230 billion in calendar 1946 to \$446 billion in 1975. The share of this debt in relation to all outstanding debt in the economy, nevertheless, has dropped from about 50 percent in the late forties to about 15 percent.⁸

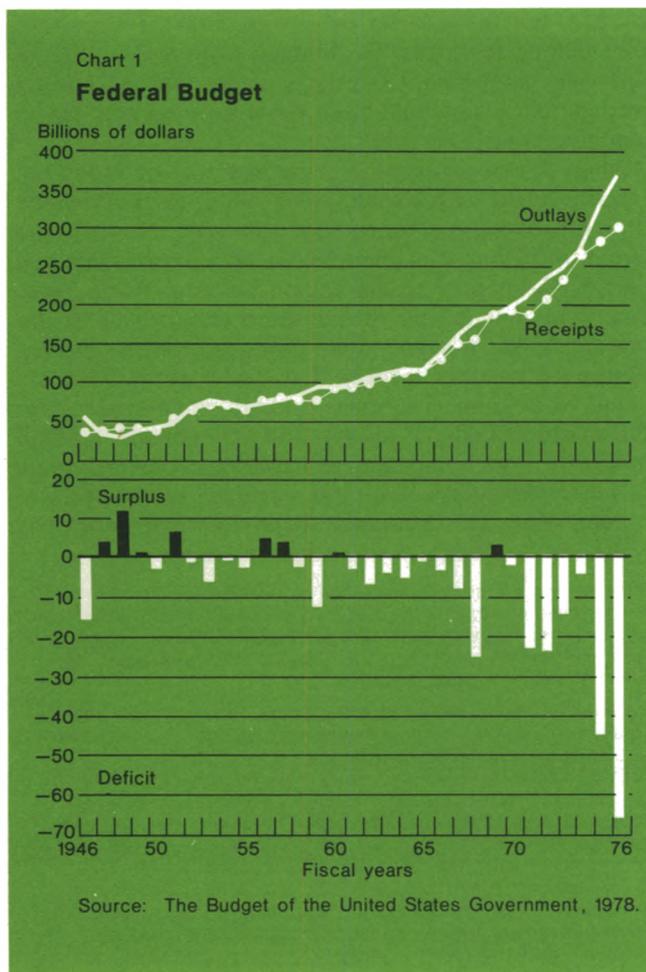
Trends in spending

It is convenient to look at Federal spending by the categories used in the NIA. Total NIA Federal spending has increased from \$29.5 billion in fiscal 1947 to \$373.0 billion in fiscal 1976. All of the broad categories of spending identified in the NIA have grown almost steadily. Much of this increase simply reflects the growth of population and the economy, as well as the effects of rising prices. In addition, however, Federal expenditures have been pushed ever higher by the adoption of newly developed programs plus the addition of new functions to previously existing programs.

⁷ For the purposes of this article, it proved most helpful to discuss Federal Government *spending* using the NIA categories and Federal Government *receipts* using the unified budget categories.

The unified budget is the official budget of the United States Government. The Federal sector in the NIA is a statistical estimate of Federal Government activities recalculated from budget data to provide a picture of the Federal Government consistent with the accounting system used to estimate total output of the economy—GNP. The estimate of total GNP is based on a comprehensive set of data—the NIA—made up of a number of subsectors, such as government, business, and consumers. While broadly similar, the unified budget of the Federal Government and the NIA Federal sector differ in agencies covered, in accounting techniques, and in the various descriptive categories into which programs are combined.

⁸ These debt data, compiled to cover in a consistent accounting framework all debt in the nation by major sector, are available only on a calendar-year basis. The latest data are for 1975.



Since World War II the Federal Government has grown larger not only in absolute terms but also in relation to other sectors of the economy. The typical test of relative size is to calculate how the Federal Government sector has grown by comparing it with the growth of GNP, the measure of total output of goods and services in the economy. On this basis, the Government sector has grown from 14 percent of GNP in fiscal 1947 to 23 percent in fiscal 1976. This growth has been somewhat erratic: a large upward thrust was associated with the Korean war, another not quite so large was associated with the Vietnam war, and a third was associated with the recent recession (Chart 2).

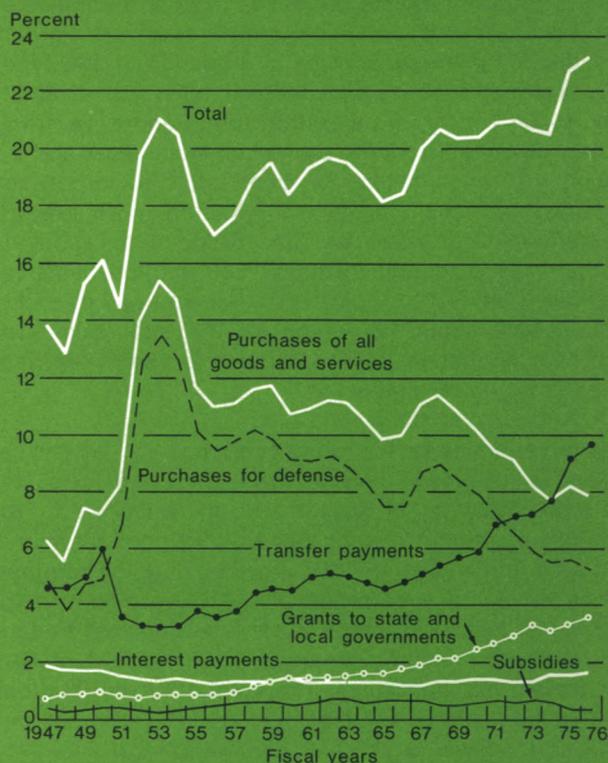
Outlays by sector

Although they have exhibited very different patterns over the years, two components of Federal outlays, spending for goods and services and spending for transfer payments, account for the bulk of outlays. Federal purchases of goods and services increased from \$13 billion in fiscal 1947 to \$127.2 billion in fiscal 1976. Nevertheless, as a share of GNP these purchases are now only 2 percentage points higher than in 1947. They peaked at more than 15 percent during the Korean war and are currently down in the neighborhood of 8 percent. Defense spending is responsible for this relative decline and now accounts for about two thirds of all Federal purchases, compared with a peak of 87 percent during the Korean war.

Transfer payments, which consist of the various social insurance and the other general welfare and assistance programs, have expanded almost continuously. These payments have increased from \$10 billion in fiscal 1947 to \$156.7 billion in fiscal 1976, a more than fifteenfold growth. As a percentage of GNP, they have about doubled—from less than 5 percent to almost 10 percent. By fiscal 1975, transfers exceeded total Federal purchases of goods and services and became the largest component among all the NIA Federal spending categories.

There has, of course, been substantial growth of other spending as well. The increase in Federal grants-in-aid to state and local governments, which include revenue-sharing payments, has been important. Grants to state and local governments have climbed from 0.7 percent of GNP in fiscal 1947 to 3.6 percent in fiscal 1976. They now provide more than 20 percent of state and local revenues. Interest payments on Federal debt have registered a sixfold rise in absolute dollar terms, and Federal subsidies have advanced eight fold from the end of fiscal 1946 through fiscal 1976. Still, both have remained relatively small in percentage terms, and together amount to only 2 percent of GNP.

Chart 2
Federal Government Expenditures as a Share of Gross National Product



Federal Government expenditures are based on national income accounts.

Sources: Economic Report of the President, 1977; The Budget of the United States Government, 1978.

Trends in receipts

Despite frequent deficits, Federal receipts tended to increase at almost the same pace as spending until 1970. Most recently, due to the very deep 1973-75 recession, receipts have lagged behind spending by much wider margins than before. Consequently, deficits have widened substantially. Viewed over the long term, all categories of receipts in the unified budget have grown greatly, though some have risen faster than others. There were only temporary interruptions—due sometimes to slowdowns in economic activity, sometimes to changes in tax laws.

The individual income tax has been, and remains, the backbone of Federal Government revenues, accounting for about 45 percent of total receipts every year. Apart from the steady share from the income tax, the composition of Federal revenues has changed

markedly since 1946 (Table 1). Starting with a share of less than 8 percent of the total in 1946, employer taxes and individual contributions to social security and related programs now account for almost 31 percent. The jump reflects increases in contribution rates and the tax bases on which contributions are figured, broadened coverage, and the introduction of new types of coverage, such as for hospital bills and disability pay. In all, almost 75 percent of total Federal revenues is now collected from the individual income tax and the social insurance taxes. By contrast, the corporation income tax, which in 1946 constituted more than 31 percent of total revenues, has dropped to about 14 percent, even though its dollar contribution has been growing (Table 2). All other revenue sources now contribute only about 12 percent of the total, compared with 20 percent in 1946, because excise taxes have been reduced or eliminated.

The government sector in the economy

There is no simple way to assess the impact of the Federal Government sector—or the budget—on the nation's economic system. Federal Government spending as a percentage of GNP provides only the roughest measure of the importance of the Government in the economy. From one point of view, saying that Federal Government spending amounts to 23 percent of GNP overstates its importance. The amount of the total output of goods and services that the Government purchases is down to about 8 percent of GNP. As Government purchases as a percentage of GNP have been declining, Government transfer payments to individuals and state and local governments have been rising relative to GNP. Since Federal Government transfer payments do not involve actual Federal purchases of goods and services, it has been said that their inclusion in an evaluation of the Federal sector leads to overstating the Federal Government's role. However, these transfers inevitably alter private spending. Had the Federal Government not received taxes from some people and transferred them to others, a different pattern and level of private spending would have prevailed.

Other budget practices suggest that the budget may well substantially understate the role played by the Federal Government in the economy and in the nation's noneconomic affairs. One understatement of the extent of Government influence results from the size of "tax expenditures". Tax expenditures—or tax subsidies—represent revenue losses arising from special provisions of the Internal Revenue Code (some of them are the "loopholes" about which there is a great deal of popular discussion). These special provisions make the tax liability of an individual or a business firm smaller

Table 1
Federal Budget Receipts: Distribution by Source
In percent

Description	Fiscal 1946	Fiscal 1968	Fiscal 1972	Fiscal 1976
Individual income taxes	41.0	44.7	45.4	43.9
Corporation income taxes . . .	31.1	18.7	15.4	13.8
Social insurance taxes and contributions	7.8	22.5	25.8	30.9
Excise taxes	16.9	9.2	7.4	5.7
Estate and gift taxes	1.7	2.0	2.6	1.7
Customs duties	0.9	1.3	1.6	1.4
Miscellaneous receipts	0.5	1.6	1.7	2.7
Total receipts	100.0	100.0	100.0	100.0

Table 2
Federal Government Budget Receipts by Source
In billions of dollars

Description	Fiscal 1946	Fiscal 1968	Fiscal 1972	Fiscal 1976
Individual income taxes	16.1	68.7	94.7	131.6
Corporation income taxes . . .	12.2	28.7	32.2	41.4
Social insurance taxes and contributions	3.1	34.6	53.9	92.7
Excise taxes	6.6	14.1	15.5	17.0
Estate and gift taxes	0.7	3.1	5.4	5.2
Customs duties	0.4	2.0	3.3	4.1
Miscellaneous receipts	0.2	2.5	3.6	8.0
Total receipts	39.3	153.7	208.6	300.0

Source: The Budget of the United States Government.

than it otherwise would have been. Tax expenditures are simply another way by which public policy can attempt to promote particular types of economic activities or moderate undue tax burdens on persons or firms who are seen as facing special circumstances. Estimates of tax expenditures now must be included in the budget by law. The official estimate is that tax expenditures amounted to \$95.4 billion in fiscal 1976.⁹ Identification of the cost of specific tax expenditures should facilitate the evaluation of whether the benefits to the nation are worth the revenues lost.

Another form of Government influence which is often not recognized is the effect of the Government's credit programs. In fiscal 1976, direct loans outstanding had risen by \$14.4 billion to \$64.2 billion, and guaranteed

⁹ Any estimates of tax expenditures are subject to a wide range of uncertainty because of the technical issues and ambiguities involved in calculating them.

or insured loans outstanding rose by \$11.3 billion to \$169.8 billion. Of course, loans that are guaranteed by the Government do not add to budget outlays unless borrowers default; consequently, these loans represent only a contingent, though large, liability of the Federal Government. In addition, about \$10 billion of loans made by off-budget agencies also are excluded from budget spending totals, even though these disbursements increase the amount of Treasury borrowing.

Understatements about the budget also arise from accounting practices. The unified budget records certain kinds of receipts not as such, but as offsets to spending. This practice does not affect the size of the surplus or deficit, but it does lower the level of total receipts and total expenditures. Offsetting receipts from the public in fiscal 1976 amounted to \$13.9 billion, thus reducing outlays from a gross level of \$380.4 billion to \$366.5 billion and reducing receipts to \$300.0 billion, the figures that are cited in the total budget for fiscal 1976.

Finally, in recent years there has been a large increase in the number and in the scope of the regulatory functions of Government. They require relatively small numbers of governmental personnel and relatively small amounts of Federal spending. Nevertheless, these regulatory functions affect a wide range of activities. It sometimes seems as if more discontent with Government is generated from the regulatory and standard-setting functions than is generated from dissatisfaction with the levels of taxation or spending. While there are efforts to reduce Government regulation, reasons to introduce new ones seem constantly to arise—right now there is a good deal of pressure to introduce more regulations to protect consumers.

Questions of budget policy

Fundamental conflicts with respect to budget policy can be expected to continue for years to come. The charge that Government is too big is commonplace. At the same time there is a strong pressure to raise spending for defense and for health and social needs. There is a similar dichotomy about Government regulation. It is said to be stifling private competition, initiative, or prerogative, but recent calls to reduce regulation have met a mixed response from the industries involved.

Fiscal policy has become more controversial of late. For much of the postwar period, the fiscal prescription to combat a recession was simple: cut taxes and increase spending. In recent years, however, the persistence of inflation even during recessions has complicated the application of this standard policy prescription. Moreover, structural problems of the economy now seem to require policy measures to deal

with specific concerns, such as teenage unemployment or the plight of the inner city. In brief, reliance on broad fiscal policy to solve national difficulties is being questioned. At the same time, the economy has seemingly become harder to manage. This is the context in which the principal budget issues that are likely to be concerning the President, the Congress, and the citizenry at large must be viewed.

(1) *Tax policy.* Federal Government taxes are a perennial center of controversy, with income taxes—individual and corporate—bearing the brunt of the criticism. Broadly viewed, there are three types of complaints: rates are too high, the tax structure is too complex, the structure is shot through with too many inequities. While almost everyone favors reform and rate reductions, there is difficulty in reaching a consensus on specific proposals. Nevertheless, the time for a fundamental reconstruction of the income tax seems to be coming. Former President Ford proposed some revisions in his January budget presentation, and the Carter administration announced that it will send to the Congress this fall recommendations covering both individual and corporate income taxes.

The basic problem underlying any attempted revision of the individual and corporate income taxes is the need to ensure that tax treatment of all forms of income is as uniform and equitable as possible. To do so properly requires a comprehensive approach, since piecemeal reform can give rise to new loopholes or to new forms of unequal treatment.

The merits of a tax reform are generally examined solely on the basis of tax considerations. Because government spending ultimately must be paid for by tax collections, a formidable constraint is placed on reforms that would reduce revenues in any major way. Another constraint is that broad-ranging changes in taxes and spending inevitably have important consequences on the overall operation of the economy. Finally, some tax arrangements are specifically designed to implement desired social policies. This results in tax complexity rather than simplicity, as well as favored treatment for selected categories of taxpayers. Consequently, the task of actually achieving the general objective of a simple and equitable income tax system has proved elusive—yet in a democracy this objective must continue to be pursued.

(2) *Energy shortages and environmental protection.* New complexities in budget making have arisen because of the increasing role that the Federal Government is playing in connection with energy and the protection of the environment. Legislation to cope with these issues will be a continuing concern of President Carter and his successors and of the Congress. Such legislation can be expected to be a combination of

spending programs, tax changes, special incentives or subsidies, and new regulations. They are likely to have an enduring effect on the budget, and over the long run could materially affect the existing composition of spending and revenues. Even more important, they may well bring marked changes in the structure of the whole economy.

The nation's economy, both on the production and the consumption sides, developed on a foundation of cheap energy. The Organization of Petroleum Exporting Countries (OPEC) ended that era, and the resulting higher energy prices have been working their way into the entire price structure. Moreover, the persistent efforts by OPEC to maintain the price relationships between oil and other products that were set immediately after petroleum prices were quadrupled late in 1973, if successful, will tend to exert upward price pressures. Standard fiscal measures cannot deal adequately with inflation arising from such unusual developments.

The resolution of the nation's energy problems inevitably involves environmental considerations. Damage to the environment from all sources has already been responsible for the adoption of a variety of regulations. These clearly involve money costs. Yet lack of environmental regulation can involve social costs that are not so easily perceived. It is now obvious that environmental pollution can no longer be treated with benign neglect. In fact, abuse of the environment itself has become a major contributing factor to price and supply pressures, as illustrated by the increasingly expensive search for clean water. There is little question that the present generation faces difficult decisions about how the bountiful natural heritage bequeathed to them should be handed on to their successors.

(3) *Is government too big?* With so many major problems facing the nation, will it continue its practice of shifting problems onto the lap of the Federal Government when all else fails? This results in Government taking on social and economic tasks that might more properly be taken care of by states and localities or by the private sector. Any such misdirection of efforts and resources cannot be fully corrected until the nation's priorities are more thoroughly reassessed and a new consensus forged.

Whatever is done about major priorities, there is at least a potential for better control over Federal spending. The budget control act and its procedures are already in place. And two proposals for further improvements are now being discussed: sunset legislation and zero-base budgeting (ZBB). A bill has already

been introduced into the last Congress, the Government Economy and Spending Reform Act of 1976, which combines the sunset and ZBB concepts.

The sunset principle states that all programs must contain a specific and automatic termination date. After that date, it is necessary to reauthorize the program, presumably after searching reexamination. ZBB requires spending programs to be grouped according to objective and then arranged by priority in order to allocate available budget resources among them. Strict application of ZBB requires that spending for each program must be justified each time an appropriation for it is under consideration. A fully effective ZBB process should eliminate any need for the sunset principle. Given the relative newness of both concepts and the likelihood of the less than perfect implementation of any set of procedures, sunset laws are probably useful adjuncts to ZBB.

The sunset and ZBB procedures have been used in some state governments, and similar procedures have been in use by business. Stated as general principles, the goals are laudatory; implementation, however, runs the danger of greatly proliferating paper work. Expectations for each of these proposals should be tempered by government experience with cost-benefit analysis, a system that was adopted during the Johnson administration but one that was later abandoned in most Federal agencies because of very limited success.

Whatever techniques may be used to control Government spending, they cannot solve the basic dilemma of what the proper role and the proper size of the government sector should be in a free democratic society. The question of size does not merely involve the possibility of overwhelming the individual or his initiative. It may also bear on the problem of controlling inflation. There is a belief, held particularly widely in Europe, that big government itself can be a major contributor to inflation.

In the end, it is the citizenry that will have to come to grips with the issue of what tasks should be allocated to government and what tasks should be allocated to the private sector—business, families, foundations, or voluntary associations. To a substantial extent, the shift to the Government of duties that once were the responsibility of other organizations or the family stems from a perception that certain necessary tasks were not adequately being carried out. To prevent a further diminution of the responsibilities allotted to the private sector, as well as to recapture some that it has lost, will undoubtedly require new private initiatives and innovations. Simply railing at "big government" will not do the trick.

Joseph Scherer

The business situation

Current developments

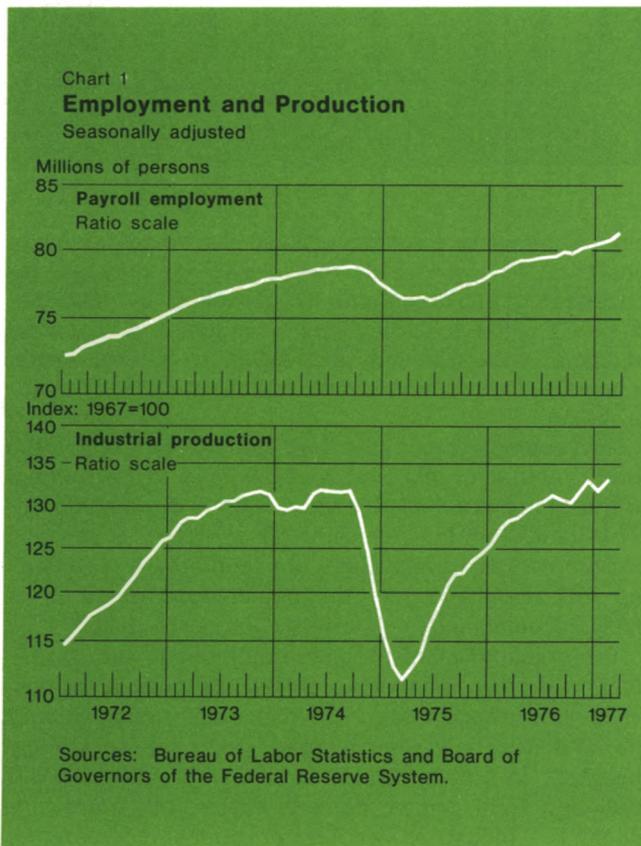
The economy recovered quickly from the disruptions caused by the bitter weather that plagued much of the eastern half of the country early in the year. That weather made it difficult to interpret what was happening in the economy: first came the retarding effects of the cold spell, and then came the stimulating effects of business' efforts to recoup earlier losses in output and sales. As spring arrived, however, the economy's renewed vitality began to take on a solid look.

Consumer spending has contributed a great deal to that vitality. After retail sales were crippled by the weather in January, they rebounded to a record high level in February and rose sharply again in March. Sales of autos during March reached a seasonally adjusted annual rate of 12 million units, including imports, the best rate since the spring of 1973.

Consumer confidence, according to private surveys taken in February, was virtually unchanged from the comparatively high level it had reached prior to the onset of the freezing weather. Consumers' willingness to spend is also suggested by large increases in consumer credit.

Vigorous buying at retail reflects the consumers' improving income position. Personal income, which was depressed by the weather and other factors in January, rose at a high rate in February. Further sizable increases in incomes probably occurred in March as payrolls continued to swell. Consumer buying power will, of course, be enhanced to the extent that any kind of tax cut may be granted to individuals this year.

Housing continues to be an important sector sustaining economic activity. Residential construction picked up handsomely during the lull in the general economy last summer and fall, and it quickly recov-



ered from the effects of extreme cold this year. Building of single-family homes has been particularly active; February starts reached the highest level since the record peak of January 1973.

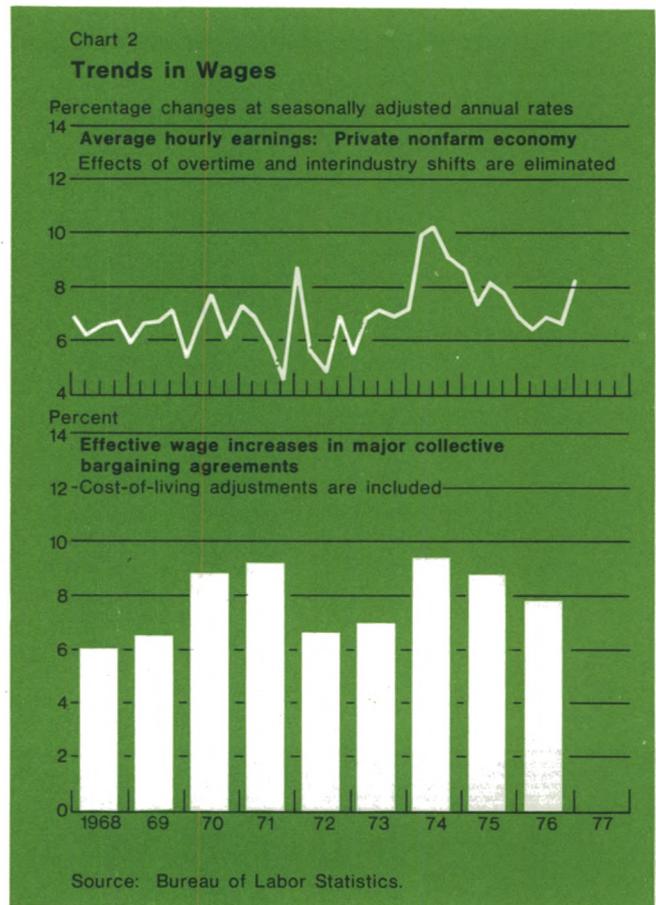
Apartment house construction, in contrast, remains relatively subdued. Notwithstanding the almost steady recovery from the extreme recession low, multifamily housing starts are below previous highs by about half. Yet, there appear to be some encouraging signs. The rental markets have been tightening; vacancy rates, for example, are down significantly and now stand at five-year lows. In the condominium market, too, sales have improved somewhat, suggesting that a slow turn for the better may have begun. Increased activity under the various Federal housing assistance programs helped to push multifamily housing starts up in the latter part of last year, and there is widespread expectation that such assistance will be expanded further. For both single and multifamily housing, the immediate outlook is further buttressed by the continuing inflow of deposits at thrift institutions that is keeping mortgage money in ample supply. All in all, the consensus that the rate of total home building will at least stay at current levels for the whole of 1977 looks reasonable.

The business capital investment situation still shows no great improvement. As discussed in the following article, outlays have remained relatively sluggish in this recovery and significantly lag the pace during previous upswings. All the latest government and private surveys of plant and equipment spending confirm earlier expectations that business intends to increase such outlays only moderately in 1977.

Business' additions to its stock of goods and materials may lend further impetus to the upturn. The sharp slowdown in inventory accumulation in the closing months of last year, together with an increase in final sales, has brought inventory-sales ratios to low levels. By March, inventory buying appeared to be advancing with vigor, according to the survey of the National Association of Purchasing Management.

The pickup in the tempo of consumer and business demands is mirrored in the trend of industrial production as well as in the behavior of payroll employment, which has risen at a monthly average of 300,000 starting last November (Chart 1). The production index more than regained its January loss in February and made another significant gain in March. By March the index exceeded last December's level by 1.5 percent. Auto makers were responding to healthy sales rates by raising their production schedules for March and April to the highest rates for those months in recent years.

A look at the business picture as a whole shows a different pattern from that generally prevailing after



eight quarters of expansion. While the overall recovery has been as vigorous as the average of previous recoveries, it has been chiefly propelled by the consumer. Capital spending hasn't caught fire, capacity utilization has risen only modestly, inventories remain relatively low, and unemployment is still a major problem.

The unemployment rate averaged 7.9 percent in the fourth quarter of last year and declined to 7.4 percent in the first quarter of this year. This is a welcome improvement from the recession peak of near 9 percent, but the rate is nevertheless unacceptably high. Insuring that many more of the unemployed get jobs is likely to command high priority for some time.

The unemployment problem continues to run in tandem with the inflation problem. Wholesale prices, which had already begun to rise more rapidly during the autumn of last year, jumped 1 percent (seasonally adjusted) in both February and March. Not only did food and farm prices increase faster, but more significantly, industrial wholesale prices accelerated.

Similarly, the rise in consumer prices, which had been contained to a monthly average of 0.4 percent in 1976, climbed 0.8 percent in January and 1 percent in February.

The resurgence of prices can in part be explained as the special effect of cold weather. Nevertheless, it is disturbing and is contributing to a revival of inflationary psychology, with all the attendant adverse impact on confidence. Still there are reasons to think that the recent speedup in price increases is only temporary. The economy's resources seem ample. There are no serious shortages, except perhaps for natural gas. There are no real signs of excessive pressure on industrial capacity. And there is of course no shortage of labor.

While unemployment and prices claim a great deal of attention, another crucial element in the health of the economy is coming under scrutiny. That element is the growth of productivity. Gains in output per man-hour in the private nonfarm business sector fell away after hitting an unusual high in the first quarter of last year. Since compensation per hour continued to grow at a fairly rapid pace, the increase in unit labor costs accelerated. If the present rate of growth in output

continues, productivity should speed up once again. To what extent the gain will be translated into an improvement in labor costs, however, will depend a great deal on how moderate wage settlements turn out to be.

This year's bargaining calendar is relatively heavy. Major collective bargaining agreements covering some 5 million workers expire or can be reopened during the year, including contracts in the steel, communications, railroad, textile, and construction industries. Most contracts that will be negotiated or can be reopened in 1977 already incorporate provisions for cost-of-living adjustments, so that there need be few major wage "catch ups" written into contracts in order to restore the real income positions of workers. Effective wage increases in collective bargaining agreements have come down gradually in the past two years (Chart 2), but it is far from certain that another step down will be taken this year.

To sum up, most economic news suggests that the recovery is in rather strong stride. Whether that stride proceeds at a pace strong enough to lower unemployment significantly but not so strong as to feed inflation is the economic question of the day.

Capital spending— a lack of dynamism

Although the growth of real GNP in the present recovery has been in line with growth during previous recoveries, real capital spending has been disappointing. Why has investment been so sluggish? Some of the weakness must be accounted for by the large amounts of excess capacity still so evident. Given such a situation, businessmen are especially unlikely to invest in new capacity unless they can anticipate the investment will be a profitable one. One indication that the profitability of new investment has not been particularly enticing is the relationship of the prices paid to build capacity to the prices received for the goods or services that capacity will produce. From 1958 through 1974, the prices of capital goods went up at a slightly faster pace than did product prices. In 1975 this unfavorable differential widened significantly. Although the differential remained virtually stable in 1976, the high level of capital goods prices is still apparently one of the significant deterrents to investment.

There are a number of other deterrents affecting the climate for investment, and many are related to the actions or inactions of the Federal Government. Businessmen would apparently like to see the Government resolve their uncertainties about price monitoring, ease some environmental and safety regulations, and allow a larger investment tax credit. Any help on the tax front would be particularly welcome now because corporations are paying taxes on book profits—profits which are not adjusted downward for the much higher costs of replacing inventory and capital goods in an era of inflation. Another important concern of executives is inflation itself, for major increases in prices would in the end bring on a recession. Since some businessmen fear an inflation-recession sequence, they don't want to add capacity that would be redundant within a comparatively short time.

There has been widespread concern on all sides, business included, about the lackluster performance of capital spending. Much of the worry relates to the long-run effects of this performance on the stock of fixed business capital. If that stock grows, the potential level of employment as well as the potential volume of output increases. If that growth is below par, employment opportunities appear more slowly and increases in the volume of output are held down. Moreover, if there is insufficient production capacity, demand for some products may outstrip supplies, thus creating bottlenecks and putting upward pressure on prices. Since it takes time to construct and to complete new capital projects, a significant advance in the level of real investment may be needed this year if production bottlenecks are to be avoided in late 1978 and beyond.

Some measures of weakness

In the 1973-75 recession the decline in real capital spending, as well as the decline in the economy as a whole, was the steepest since before World War II (Table 1). The decline was also longer than usual. In four of the five previous recessions, the low in real capital spending—nonresidential fixed investment—coincided with the low in the economy as a whole. In the latest cycle, however, the low in capital spending came two quarters after the economy had begun to improve.

Real capital spending finally did advance beginning with the fourth quarter of 1975, but not vigorously. The annual rate of growth in the five quarters following the third quarter of 1975 was 5.6 percent, about equal to that in the first five quarters of recovery following the 1970 recession. In contrast, in the four other recoveries between 1950 and 1970, the growth rate of capital spending in the first five quarters was considerably larger—9.0 percent or more (Table 2).

All in all, in the current expansion only 33 percent of the drop in real capital spending during the recession was recouped within five quarters of the upturn in such spending. In all previous postwar expansions, 74 percent or more of the loss had been regained within five quarters (Table 2).

The latest Department of Commerce survey of planned expenditures for plant and equipment suggests an increase of roughly 7 percent in real spending for 1977, compared with 1976. At this rate, the level of real investment will still not have surpassed its previous peak at the end of this year. It is sometimes claimed that the Commerce survey understates future expenditures when capital outlays are increasing during a recovery and that such an understatement is taking place now. But there is no clear historical evidence for this presumption.

Determinants of capital spending

Apart from all the general uncertainties holding back capital spending, there are a number of more quantifiable reasons that help account for the lack of robustness. Certainly one such reason is the rate at which presently existing production facilities are being utilized. Although plant and equipment expenditures by manufacturing industries comprise less than half of all nonresidential fixed investment, capacity utilization in manufacturing is useful as a rough indicator of demand pressures on the economy's total capacity. It is rough in any case because the figures on capacity utilization in manufacturing are, at best, only approximations of the actual rate of utilization.

There are several different estimates of capacity utilization in manufacturing, and perhaps the most widely used is the series published by the Federal Reserve Board.¹ As one would expect, the Board's—and other—measures of the ratio of actual output to the capacity for output go down during recessions. The most recent decline was particularly severe; the drop, according to the Board's estimate, came to 16.9 percentage points from the previous quarterly peak, and capacity utilization hit a new postwar low of 70.9 percent during the first quarter of 1975 (Table 3). As a result, there is more excess capacity left now after eight quarters of expansion than at comparable stages of other recoveries (Table 3), even though the increase in the manufacturing utilization rate during the 1975-76 upswing has been equal to the average pace during the past five recoveries. This fact alone, however—the large amount of excess capacity—is not

¹ For a full description of the four most widely used measures of capacity utilization in manufacturing, and further details on the recent capacity situation, see "Measuring Capacity Utilization in Manufacturing" in the Winter 1976 issue of this *Review*.

Table 1
Declines in Real Capital Spending*

Recessions	Declines in real capital spending (percent)	Number of quarters of decline
1948-49	16.0	4
1953-54	3.9	3
1957-58	14.8	4
1960-61	4.5	3
1970	8.0	5
1973-75	17.5	6

* Capital spending is nonresidential fixed investment. The declines are measured from the peaks to the troughs of capital spending itself.

Source: Calculated from Department of Commerce data.

Table 2
Recoveries in Real Capital Spending*

Recoveries	Annual percentage rate of growth during first five quarters	Percentage of decline regained within first five quarters
1949-50	15.0	100
1954-55	11.9	over 100
1958-59	10.1	74
1961-62	9.0	over 100
1970-71	5.5	79
1975-76	5.6	33

* Capital spending is nonresidential fixed investment. The gains are measured from the troughs of capital spending itself.

Source: Calculated from Department of Commerce data.

Table 3
Cyclical Comparisons of Capacity Utilization in Manufacturing

In percent		
Recession	Quarterly level at trough*	Quarterly level after eight quarters of expansion*
1948-49	72.4	83.5
1953-54	79.1	86.5
1957-58	72.4	81.3
1960-61	73.8	82.3
1970	76.3	85.8
1973-75	70.9	80.2†

* The troughs referred to in the first column are those of capacity utilization in manufacturing. The quarterly levels in the second column are those for the eighth quarter after a trough in the economy as a whole.

† Estimated.

Source: Board of Governors of the Federal Reserve System.

enough to explain the sluggishness of capital spending last year. In previous recoveries, when utilization reached about 79 percent, real capital spending rose by annual rates of 8.5 percent to 12.5 percent in the next three quarters. In the first quarter of 1976 the utilization rate stood at 79 percent of capacity, yet in the next three quarters capital spending rose at an annual rate of only 6.3 percent. The more modest increase in spending in the present recovery confirms that excess capacity only partially accounts for the lack of dynamism in capital spending.

A substantial recovery of corporate profits would normally be expected to facilitate capital spending. Profits, of course, fell precipitously in the recent recession. The domestically earned aftertax profits of nonfinancial corporations plummeted 73 percent. They went from a seasonally adjusted annual rate of \$36.3 billion in the third quarter of 1973 to \$9.6 billion in the third quarter of 1974. (Profits, as used here, are corrected for the higher replacement costs of inventory and of plant and equipment.²) Profits began climbing thereafter. They came to \$42 billion for all of 1976, about equal to the profit highs of 1966. However, since corporate output is a good deal larger than a decade ago, profit margins, by any measure, are substantially lower now than in the mid-1960's.

A look at cash flow

Businessmen, of course, don't only look at the size of their profits when they plan investment spending. They also look at their internal cash flow, *i.e.*, their retained earnings plus their set-asides for depreciation (or capital consumption). Capital spending has been modest when measured against this figure, quite possibly because of the changed attitude of businessmen to the state of corporate balance sheets. During the last recession, corporations suffered from a severe liquidity squeeze. Consequently, they took steps to strengthen their financial positions by paying off bank loans and by floating more bonds. As a result, corporate balance sheets have improved considerably, laying the groundwork for a faster growth of capital spending.

² These aftertax profits include inventory valuation and capital consumption adjustments. The inventory valuation adjustment is the difference between the original cost of inventory and the cost of replacing it. When replacement cost is greater than original cost, as it has been for a number of years, this adjustment lowers profits. If replacement costs should be declining, this adjustment would raise profits. The same effects apply to the capital consumption adjustment, which converts the depreciation based on tax returns to a measure reflecting uniform depreciation formulas as well as the present cost of replacement.

Another significant factor that also determines how much businessmen are willing to spend for more capacity is the movement of the prices of plant and equipment relative to the prices of the products those same capital goods produce. Each company has the data to make such a comparison for itself and thus can ascertain whether additional capacity would produce sufficient earnings. In fact, some have emphasized that the increase in capital replacement costs has been relatively so rapid as to become a major impediment to capital spending. For business as a whole, there is no measure of this relationship, but there is a proxy: how the index of capital goods prices moves in relation to the price of corporate output.³

The problem of prices

From 1958 through 1974 the price of capital goods rose only a little faster than the advance in the price of corporate output. In 1975, however, the gap between the rate of increase in the prices of capital goods and those of final products widened substantially and was twice as large as in any of the preceding sixteen years. This widening indicates a further significant decrease in the expected rate of return on new investment. In 1976, the prices of capital goods and of their products rose about equally.

Of course, there are other factors related to the cost of new plant and equipment apart from the prices of the goods themselves. Clearly, the energy costs associated with operating both old and new equipment have risen greatly. At the same time, expenditures for antipollution equipment, while helping to improve the quality of life, have significantly increased the effective costs of capital goods.

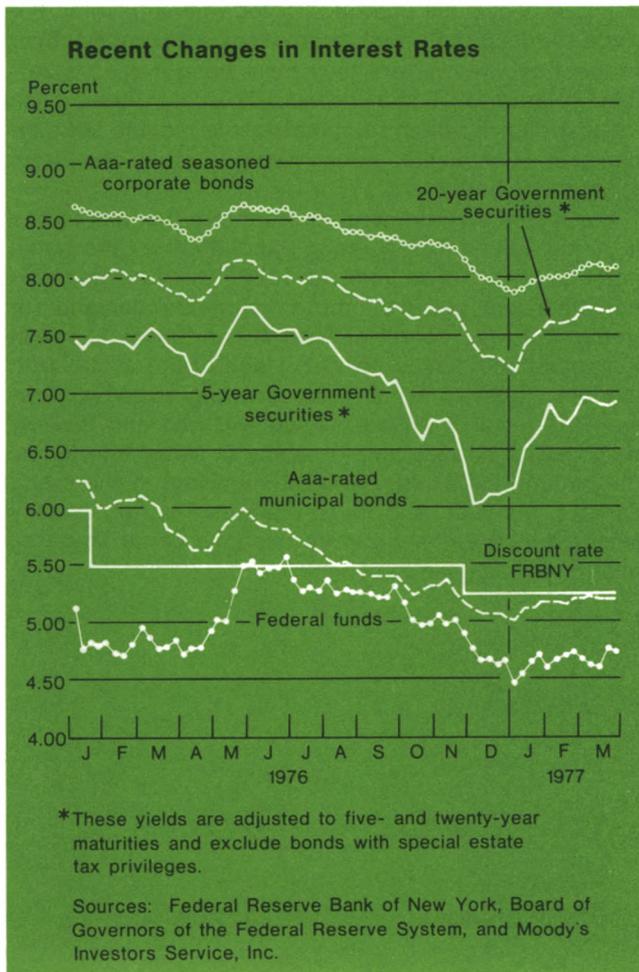
The factors explored here—the business climate and inflation, excess capacity, new caution about balance sheets, the flow of profits and retained earnings, and the uncertainty about whether future product prices will justify the present costs of installing new capacity—do much to explain why capital spending has come along rather slowly. As these factors become more conducive to higher capital spending, and some of them, such as profits and capacity utilization rates, have already begun to do so, capital spending should begin to gather momentum.

³ The price of corporate output referred to here is the implicit price deflator for the gross domestic product of nonfinancial corporations; the index of capital goods prices used is the implicit price deflator for business fixed investment. Both deflators are drawn from the national income accounts.

Marjorie Schnader

The financial markets

Current developments



A significant change took place in the financial markets near the turn of the year. At the end of 1976, a buoyant, practically euphoric, atmosphere pervaded the stock market and the various sectors of the bond market. The pace of the economy had been somewhat subdued in the last half of the year, and inflationary pressures seemed to have abated. Underwriters and investors alike were therefore expecting the kind of moderate and restrained economic growth that would limit both inflation and upward pressure on interest rates.

Developments early in the first quarter of 1977, however, caused a rapid, almost overnight, change in expectations. Prior expectations proved to be wrong on several counts. Underwriters had anticipated a further decline in the Federal funds rate which would spur demand by investors, but the rate did not decline. The slower growth in economic activity came to be recognized as having been only temporary. And the behavior of the various price indexes—consumer, wholesale, and spot commodity—raised the possibility of more inflation than had generally been forecast for 1977 and beyond.

The reaction to these changed perceptions had its major effect very soon after the year opened. Securities underwriters and dealers began unloading the excessive inventories they were carrying. Underwriters and dealers also began to believe that investors would demand higher interest rates to compensate for the possible increase in inflation. In addition, investors started to focus on the likelihood that the new administration's budget deficit could be too stimulating for the economy and could also enlarge Government borrowing in the credit markets. All these factors caused

prices of debt instruments to fall sharply during most of January; only near the month's end did prices become steady, and they have remained fairly stable ever since. The drop in prices, of course, meant a rise in interest rates.

The abrupt change in the atmosphere of the financial markets occurred in the absence of any change in the thrust of monetary policy. Indeed, the Federal funds rate was steady throughout the first quarter, fluctuating narrowly around December's average of 4.65 percent. Beyond the shortest term sector of the money market, however, the change was pervasive. For example, the monthly average of rates on three-month Treasury bills reached 4.60 percent in March after they had fallen to 4.35 percent in December. Interest rates in other short-term markets followed much the same pattern. The advance in yields on intermediate-term Government securities was particularly sharp (see chart). This reflected the adverse swing in sentiment about the medium-term outlook for inflation and the prospect of sales in this maturity range by banks to accommodate greater loan demand. Accordingly, the yield on a five-year Government issue climbed to a 6.93 percent average in March from the recent low of 6.10 percent in December.

Interest rates on long-term Government and corporate bonds also declined before the year-end and then rebounded sharply. When yields moved down, more corporate issues to raise new funds and to re-finance appeared. When yields went up again, some corporate issues were postponed to await better market conditions.

Rates in the municipal bond market did not reverse course as much as those in other long-term markets. There has been a general downward movement in municipal yields over the past eighteen months, reflecting the improved financial conditions in New York and other cities. Another event important to the municipal market was a court decision in November that prohibited New York City from continuing its moratorium on repayments of principal to holders of certain

of the city's notes. This prompted a considerable improvement in the status of lower rated municipals generally, and their yield spreads from prime-rated municipals consequently fell. The spread between Baa and Aaa municipal yields, as reported by Moody's, was 187 basis points at the end of November and narrowed to 115 basis points at the end of March.

Because of the trend to lower yields on tax-exempt issues, commercial banks on the whole limited their accumulation of these securities. Banks did choose, however, to increase their holdings of bankers' acceptances by sizable amounts before their end-of-year financial statements were due. They ran off most of these acceptances as the new year began. (Banks did much the same around the previous year-end.)

During the first quarter of this year, commercial banks added substantially to their Government securities portfolios—rather more than they usually do in that quarter. Lending to businesses, however, continued to rise only very slowly, with demand for these loans at money market banks lagging demand elsewhere, as is typical in a cyclical upswing. Corporations have on the whole reduced their bank borrowings substantially over the past two years, and they have bought a considerable volume of liquid assets. Their stronger cash position allowed them to make sizable income tax payments in March without borrowing a great deal from commercial banks.

The recent improvement in corporate liquidity is one of the determinants governing the outlook for the credit markets over the balance of 1977. The fundamentals indicate some cyclical upturn in private demand for credit, and the Federal deficit may add more to credit demands than is usual for this stage of the cycle. With economic activity and income growing strongly, however, the level of private saving will rise and thereby increase the already ample supply of investable funds. The outlook for inflation will be important to the credit markets this year, and these markets will remain very sensitive to any change in perceptions about how well inflation is being kept in check.

Financing the Federal deficit in 1975 and 1976

The Federal deficit reached historic highs in 1975 and 1976. As a result, in those two calendar years the United States Government had to borrow a massive amount of funds—a record two-year total of \$155 billion net.¹ Despite widespread fear that so large an amount would be difficult to raise, all the funds were obtained without strain and in a time of generally steady to declining interest rates. In retrospect, it appears that the unusual conditions accompanying the recent severe recession and the recovery that followed did a great deal to facilitate the smooth financing of the deficits.

During part of the recession and the latter stages of the preceding boom, the rate of inflation was unusually rapid and short-term interest rates climbed to the highest levels in history. At that time, inflationary expectations and the prospect of shortages contributed to substantial inventory accumulation by business. This accumulation led to a great deal of short-term borrowing and, as the recession wore on, a serious excess in inventories.

Against this background, the financial soundness of a number of corporations came into question and, understandably, investors became more quality conscious about securities for a time. Quality consciousness benefits Government securities, the least risky in the market. Furthermore, as the economic recovery developed, corporate cash flow increased greatly. Businesses seized this opportunity to restructure balance sheets: they substituted long-term for short-

term liabilities and they added to their holdings of liquid assets, particularly Treasury obligations.

Businessmen's policies became much more cautious after their chastening experiences during the recession. They were quite conservative in their accumulation of inventories. They increased their investment in fixed assets at a modest rate, in part because the previous severe contraction of economic activity left them with a large amount of excess capacity. These restraints on spending caused the demand for bank loans to be unusually weak. Because commercial banks were faced with such weak loan demand, Treasury securities became an attractive investment for them. This was particularly true since the banks, too, wanted to build up their liquid asset holdings. Other investors—namely, thrift institutions, insurance companies, pension funds, state and local governments, and foreign official institutions—also substantially increased their purchases of Treasuries.

The Treasury's offerings

In raising the considerable sums required in 1975 and 1976, the Treasury adopted several policies designed to improve the market's reception of its issues. It kept the market informed of its estimates of financing needs and offered a wider spectrum of maturities on a regular basis. This procedure enabled dealers and investors to anticipate forthcoming offerings and work them into their portfolio strategy. The Treasury also took advantage of the legislation passed in 1976 that provided it with additional flexibility in financing the deficit. For many years there had been a Federal law setting a 4¼ percent interest rate ceiling on United States Government bonds, but bonds could not be sold at 4¼ percent when interest rates began to rise

¹ All data in this article are drawn from the flow-of-funds accounts of the Board of Governors of the Federal Reserve System. The figures on yearly net purchases of Treasury securities by sector are summarized in Table 1; total holdings at the year-end are summarized in Table 2.

in the 1960's. In 1971, therefore, \$10 billion of the total amount of Government bonds was exempted from the ceiling. In 1976, the amount of exempt bonds was increased to \$17 billion.²

Around the same time in 1976 that the amount of Government bonds exempt from the interest rate ceiling was increased, the maximum maturity of notes—which are not subject to interest rate ceilings—was extended from seven to ten years. Given the favorable environment in the debt markets, the Treasury undertook to sell relatively more coupon securities than bills. Thus, 1976 was the first year since 1964 in which the average maturity of the Government debt was extended.

Much of the new borrowing was accomplished by regular offerings of coupon securities. Monthly offerings of two-year notes began in February 1975 and later quarterly sales of four-year and five-year notes were added as ordinary parts of the financing schedule. The Treasury also added to its offerings of bills, particularly in 1975.

In 1976, for the first time in six years, the Treasury also made use of fixed price subscription issues. In these issues, coupon rates are set by the Treasury and the obligations are sold at par. The technique was used for one issue of seven-year notes and two issues of ten-year notes offered in minimum denominations of \$1,000. These were extremely successful in attracting a greater diversity of buyers. In fact, the obligations were so popular that they were heavily oversubscribed. The Treasury was therefore able to increase the total volume of funds raised through the subscription issues to \$18.5 billion, \$7.5 billion more than the amount originally planned.

Buyers of debt: nonfinancial corporations and commercial banks

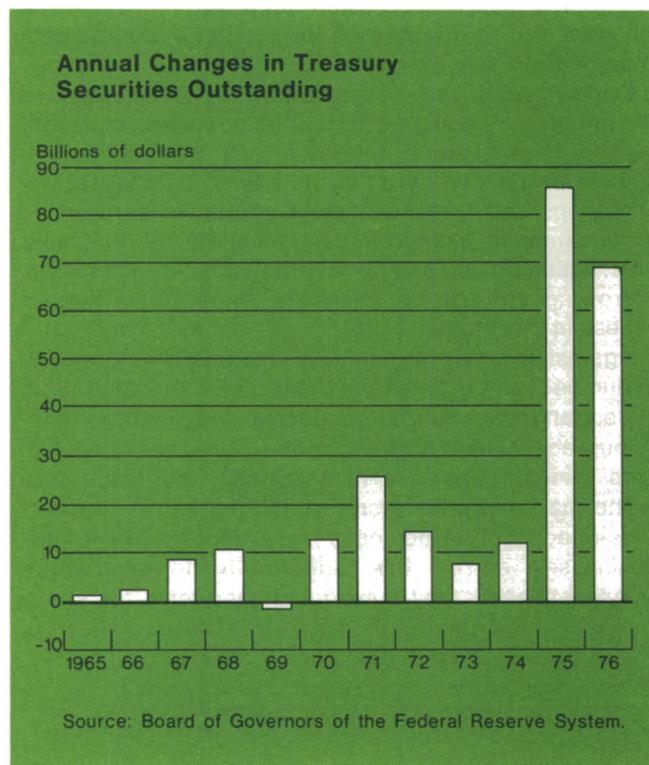
Rising sales and improved profit margins swelled corporation cash flows as the recovery proceeded. Internally generated funds sufficed to cover a major portion of the modest expenditures on plant and equipment.³ And, of course, inventory accumulation was for the most part also cautious.

² The exemption now applies to the amount of Government bonds outstanding apart from holdings by the Federal Reserve System and Government investment accounts. This means that the amount of Government bonds that can be issued under the \$17 billion ceiling can change when the Federal Reserve or Government investment accounts purchase outstanding issues that carry a coupon rate of more than 4¼ percent. When this happens, additional bonds can be sold to the public. As of January 31, 1977, the Federal Reserve Banks and United States Government accounts held \$11 billion of the \$23 billion outstanding Government bonds with coupons in excess of 4¼ percent.

³ For further details, see "Capital Spending—A Lack of Dynamism", page 14.

Corporations have issued a substantial quantity of long-term debt and of equities ever since the present recovery began. The funds raised were largely used to repay short-term borrowing—particularly bank loans—and to purchase liquid assets. In the process, corporations acquired a sizable volume of Treasury securities; they bought a net \$17.2 billion of Governments in 1975-76. These purchases raised their total holdings from \$5 billion at the end of 1974 to \$22.5 billion at the end of last year. The rise in their holdings of Governments along with their repayment of short-term debt improved the liquidity of nonfinancial corporations: the ratio of liquid assets to short-term liabilities increased from a low of 26.6 percent at the end of 1974 to 34 percent at the end of 1976.

Since corporate demand for bank loans was weak, commercial banks were drawn to Treasury securities. Acquiring them also enabled commercial banks to rebuild their own liquidity. Data for weekly reporting banks show that their ratio of liquid assets to liabilities rose from a low point of 8.6 percent during October 1974 to a high of 13.9 percent by December 1976. Over the two-year interval, commercial banks bought a net \$46 billion of Treasury securities, thus bringing their portfolio of Governments to \$103 billion by the end of last year.



Buyers of debt: households and thrift institutions

Households⁴ provided funds to finance the Federal deficit in 1975 and 1976 in two ways. They did so directly through their purchases of Treasury debt. They also did so indirectly through deposits in thrift institutions that used part of the inflow of such deposits to buy Government securities.

Households shifted from being large net purchasers of Treasury securities in 1975 to being net sellers in 1976. This shift stemmed from changes in the rates of interest on marketable Treasury securities in relation to the rates available on time and savings accounts. Rates on time and savings deposits do not change very often, and these rates may not exceed specified ceilings. Thus, whenever the yield on Treasury securities rises above the rate on savings deposits, households tend to increase direct purchases of Treasury issues and to reduce the flow of deposits to savings accounts (at times, they may even make net withdrawals). When the yields on Treasury issues fall toward or below the rates on savings deposits, the flow tends to shift back toward savings accounts.

In the period under consideration, households had occasion to do both. Toward the end of 1974 and the beginning of 1975, rates on Treasury securities declined sharply from the extremely high levels attained in mid-1974. Households therefore started to increase their deposits at commercial banks and thrift institutions and were net sellers of Treasury securities. In the remainder of 1975, households were net buyers of marketable Treasury issues, particularly during the third quarter when market rates rose temporarily. Over 1975 as a whole, households acquired a net \$6.4 billion of marketable Treasury obligations.

During 1976, in contrast, holdings of marketable Government issues by households actually declined a net \$7.7 billion. The reason was that market rates of interest were relatively low and stable in 1976. Indeed, by December, some short and intermediate rates were at their lowest levels in four years. Households therefore were net sellers of Treasury issues in all quarters of 1976 except for the second, when market rates of interest rose briefly. Most of the proceeds appear to have been deposited in time and savings accounts. However, over 1975-76 combined, households also bought a net \$8.7 billion of savings bonds. As a result, household holdings of all Treasury debt rose by \$7.5 billion to \$111 billion.

By the end of 1976, thrift institutions had also enlarged their holdings of Governments. While market rates remained high during the first half of the

recession, the deposit gains of thrift institutions slowed down. The subsequent fall of market rates made savings deposits competitive again in 1975 and 1976. With these reflows, both savings and loan associations and mutual savings banks restored their liquidity as they acquired Treasury securities with some of these deposits. In the two years, thrift institutions took on a net total of nearly \$8 billion of Treasury securities. In addition, savings and loans repaid borrowings from Federal Home Loan Banks, while savings banks (which generally are not members of the Federal Home Loan Bank system) increased their purchases of corporate bonds. As thrifts rebuilt their liquidity, they also began to expand their mortgage portfolios more rapidly.

Other buyers of debt

As the economy expanded in 1975-76, pension funds⁵ and insurance companies received sizable inflows of funds. Previously, these institutions had not been particularly heavy investors in United States Government securities and, indeed, had been net sellers in recent years. The availability of large new issues of these securities during the past two years, however, provided a welcome outlet for the investment of a portion of the large inflows of funds. Thus, pension funds and insurance companies added considerably to their holdings of these securities in 1975-76. Pension fund portfolios of Government securities grew by \$11.3 billion, and insurance company holdings increased by \$6.5 billion. These investments amounted to 16 percent of the financial assets added to the portfolios of these institutions during the two years, as their purchases of other securities also rose. On the other hand, acquisitions of mortgages by life insurance companies slowed markedly since the availability of attractive investments was constricted by the reduced construction of commercial buildings and multifamily residential units.

State and local government general funds also substantially increased their net purchases of Treasury issues in 1975-76. Some purchases—although it is not clear how much—involved using Treasuries as a vehicle for advance refunding of the municipalities' own obligations issued when interest rates were high. The decline in rates encouraged municipalities to undertake such refunding to the extent possible. This can be done, even though the obligations themselves are not yet eligible to be called, by selling new debt at the current lower rate of interest and investing the pro-

⁴ The category "households", as used here, includes not only households but also personal trusts and nonprofit organizations.

⁵ The term "pension funds", as used here, includes private pension funds and employee retirement funds of state and local governments.

Table 1

Net Annual Purchases of Treasury Securities

In billions of dollars

Sector	1972	1973	1974	1975	1976
Nonfinancial corporate					
business	-2.6	-5.3	2.1	9.0	8.2
Commercial banks	2.4	-8.8	-2.6	28.8	17.4
Thrift institutions	-0.3	-2.9	-0.6	4.5	3.3
Savings and loan associations	-0.5	-2.4	-0.2	2.3	2.2
Mutual savings banks	0.2	-0.5	-0.4	2.2	1.1
Households	3.0	17.0	9.2	10.5	-3.0
Savings bonds	3.3	2.7	3.0	4.0	4.7
Other Treasury	-0.2	14.3	6.2	6.4	-7.7
Private pension funds and state and local government retirement funds					
Insurance companies..	-0.3	-0.5	-0.1	3.3	3.2
State and local government general funds ...	4.4	-0.1	-1.8	6.3	10.7
Foreign	8.4	0.3	3.7	8.1	10.1
Federal Reserve	-0.3	8.6	2.0	7.4	9.1
Other*	-1.0	0.5	0.9	2.7	4.4
Total	14.3	7.9	12.0	85.8	69.1

* The category "Other" consists of investment companies, money market funds, securities brokers and dealers, credit unions, and Federally sponsored credit agencies.

Source: Board of Governors of the Federal Reserve System.

Table 2

Holdings of Treasury Securities

In billions of dollars, at the year-end

Sector	1972	1973	1974	1975	1976
Nonfinancial corporate					
business	8.5	3.2	5.3	14.3	22.5
Commercial banks	68.0	59.2	56.6	85.4	102.8
Thrift institutions	9.2	6.2	5.6	10.1	13.4
Savings and loan associations	5.7	3.2	3.1	5.4	7.5
Mutual savings banks	3.5	3.0	2.6	4.7	5.9
Households	77.6	94.6	103.9	114.3	111.4
Savings bonds	57.7	60.4	63.3	67.4	72.0
Other Treasury	19.9	34.2	40.5	47.0	39.3
Private pension funds and state and local government retirement funds					
Insurance companies ...	6.5	5.6	4.7	10.1	16.0
State and local government general funds	6.7	6.3	6.2	9.5	12.6
Foreign	26.2	26.1	24.3	30.6	41.3
Federal Reserve	54.4	54.8	58.4	66.5	76.6
Other*	69.9	78.5	80.5	87.9	97.0
Other*	4.5	5.0	5.9	8.6	13.0
Total	331.5	339.4	351.5	437.3	506.4

ceeds in special Treasury securities. The municipality generally earns enough on the Treasury securities to cover its new interest payments. As soon as the old municipal obligations carrying the high rates mature or can be called, the municipality pays them off with the proceeds from the special Treasury issues—issues that were designed to mature at the same time. In this way, the municipality has substituted new, lower interest debt for older, higher interest debt. Of course, until such a switch can be made, the municipality must continue to service the original higher interest debt.

Purchases of Treasury securities by foreign official institutions and international organizations provided a major source of funds for financing the 1975 and 1976 Federal deficits. Over that period, foreign holdings of Treasury issues rose \$18 billion, nearly five times the rate of acquisition in the 1973-74 period. Major groups of foreign purchasers in order of importance were: (1) central banks and governments of industrial countries, (2) OPEC governments, and (3) international organizations, particularly the World Bank. Acquisitions by industrial countries, which accounted for one third of total foreign purchases over the two-year period, were especially heavy in 1976 and resulted from the large amount of dollars obtained through exchange market operations by central banks, particularly those of Germany, Switzerland, and Japan. Purchases by OPEC members, which were more than one fourth of total foreign acquisitions in 1975-76, grew steadily over the period, reflecting the continued strong surplus position of those countries. At the same time there was a marked shift in the OPEC portfolio toward longer term Treasury obligations.

During 1975 and 1976, the Federal Reserve acquired a net \$16.5 billion of Treasury securities. These purchases reflected the Federal Reserve's policy of providing enough bank reserves to support a growth of the money supply compatible with the System's aim of helping to achieve stable and noninflationary economic growth.

Arline Hoel

A Broader Role for Monetary Targets

Paul A. Volcker
President, Federal Reserve Bank of
New York

I suppose that anyone from the United States who prepares to deliver a speech to a Canadian audience thinks about some of the striking similarities—and some of the striking differences—between our two countries. After reflecting on the matter for a while, I began to be increasingly certain that, in the context of my subject for this evening, the similarities are vastly more important than the differences. Recent thinking about the problems of economic stabilization, and particularly about the objectives and techniques of monetary policy, seems to me to have run along parallel paths in Canada and the United States.

As far as bond traders are concerned, I suspect it's part of the instinct of a Canadian bond man—more so, even these days, than of an American—to recognize that economic stabilization has an increasingly international dimension. In that respect, there has been a radical change in the game since the final breakdown of the Bretton Woods system nearly four years ago.

Following the lead set by Canada, the major industrial countries came to conclude that, like it or not, we would have to live within a context of flexible exchange rates. Bitter experience had demonstrated that the earlier arrangements were too rigid and brittle to contain the pressures that build up in markets as a result of the divergent economic performances of countries.

It was not the first time that a highly structured system finally fell by the wayside under the pressure of events and new needs. In the decade following World War I, restoration of the gold standard and

fixed parities, designed to provide the substance and the symbol of renewed international stability, was the goal of almost every central bank and government. In domestic policy, the simple rule was that an annually balanced budget had a high order of political, as well as economic, priority. But, under the impact of the Great Depression and the international monetary crises related to it, neither fixed exchange rates nor balanced budgets survived for long.

Following that dismal experience, strong new efforts to achieve stabilization were made after World War II. Internationally, a new par value system, freed of some of the rigidities of the gold standard, was installed at Bretton Woods. Domestically, the changes were more striking, drawing heavily on the ideas of Keynes. And for roughly two decades—particularly supported by close cooperation among the industrial countries—the new arrangements were able to support unprecedented growth and prosperity in a framework of a high degree of price stability.

But the turbulence of the 1970's brought that period to a close. We have coined some cumbersome and ugly new words—"stagflation", for instance—to describe the domestic dilemmas of many countries. Externally, we have seen some exchange rate gyrations almost as large as those of the 1930's. In this perplexing situation, theorists and policymakers alike have had to grope for new approaches and standards to guide economic management.

As a result, internationally accepted doctrine has obviously and radically changed. The current approach, as reflected in the new articles of the Interna-

tional Monetary Fund, has two basic premises: first, that exchange rate changes should play a more continuous and active role in the process of international adjustment; second, that the basis for any stabilization of exchange rates must lie primarily in the efforts of individual countries to achieve growth without inflation at home. It is not much of an exaggeration to say these concepts stand on its head the old doctrine—the concept that fixed exchange rates, by imposing a strong external discipline on governments and central banks, would force stability at home.

One practical implication is to place an even heavier burden on domestic policies. In a world of floating exchange rates, inflationary or deflationary forces arising in one country are less readily diffused among its trading partners. Instead, in recent experience there have been occasions when the sharp depreciation of an exchange rate aggravated domestic inflation.

The irony is that, as the support which the fixed rate system provided for internal stabilization weakened, so did confidence in the capacity and will of governments to achieve stability through domestic policy. Some of the old rules just no longer seemed very relevant.

Take one example. For more than a generation every economics textbook has taught us that the concept of an annually balanced national budget is outmoded. But somehow the more sophisticated ideas of “cyclically balanced” and “full employment” budgets seem, in practice, to have opened the way to more or less perpetual—and seemingly ever larger—deficits. Take another example. Early in the postwar period the idea developed that a “trade-off” between unemployment and prices could be carefully calculated, that it

kets adjust to current expectations as much as to current facts.

It is in this context of doubt and disillusionment that some ideas espoused by the so-called monetarist school have attracted new attention in the United States and elsewhere. Their main point of emphasis—that money matters—is hardly new. Indeed, the thought that there is a relationship between the supply of money and the general level of prices is one of the

I have become increasingly convinced that the experiment in “practical monetarism” can play a part in restoring a sense of greater stability and confidence in monetary policy and in our economic performance.

oldest propositions in all of economics. Few economists—and almost no central bankers—have ever disputed it. Nevertheless, for a variety of reasons, beginning in the 1930’s and continuing through most of the postwar period, the emphasis in policymaking was focused on the short run, where the relationship between money and prices is less clear. While the effects of the money supply on credit markets and interest rates were generally recognized, the effects on the economy were thought not to be terribly powerful in periods of depression or recession. Attention turned elsewhere—to fiscal action, to the process of wage bargaining, and to other forces as the main determinants of economic activity and prices.

I am not about to argue that these other forces are not important, and—in some circumstances—even crucial. There is a lot of evidence that the relation between money and prices is not very close in the short run. But there is also a hard core of truth in the central theme of the monetarist school: over time, an excess supply of money contributes nothing to employment, nor to real income, nor to real wealth, but only to inflation.

In its modern dress, monetarism has also helped clear up a good deal of confusion in other respects. We have become more conscious of the difference between rates of interest as observed in the marketplace and the “real” rate of interest—that is, the return after adjustment for expected changes in purchasing power. We recognize to a greater degree the importance of expectations in explaining behavior in financial markets and in economic life generally. We have learned that lenders and borrowers have come to anticipate inflation and that they are sensitive to policies they interpret as contributing to inflation. Consequently, they sometimes may react in unac-

It is neither possible nor desirable to attempt close control over the growth of the monetary aggregates during short periods of time, a point which has not yet been convincing to the bond traders as they attempt to interpret, and often overinterpret, the money supply figures we release in New York late every Thursday afternoon.

could be a guide to policy. But that trade-off has turned out to be neither stable nor meaningful in a world characterized by both high unemployment and high inflation. It has turned out that the efforts at “fine tuning” monetary, fiscal, and other policies have sometimes been as confusing as helpful in a world in which the future is never known, the lags between action and response are long and uncertain, and mar-

customized ways—for instance, by selling securities out of fear of inflation when the money supply is rising exceptionally fast, instead of using the larger supplies of money to add to their holdings. As a result, a growing money supply is no longer seen to be as closely associated with sustaining real economic growth as it used to be.

In a sense, the long run of which the monetarists speak has caught up with us. The lessons have not been lost on central banks, in the United States or elsewhere. They have responded, in their policies and policy pronouncements, by putting new emphasis on the behavior of the money supply and its related monetary aggregates. In particular, it has become the practice in the United States, in Canada, and in a number of other important countries to specify quite precisely the growth ranges, or projections, or targets—the nomenclature differs—for certain monetary aggregates over a period of a year or so ahead.

In the United States and elsewhere, there was a certain initial reluctance to adopt this approach. Given that the relationship between money and other economic variables is imperfect, the reasons are understandable. Central bankers share a human desire to want to hedge against an uncertain future. They also want to retain the ability to respond flexibly as new developments emerge, to probe experimentally with new policy measures, to test market reactions, and to learn from those reactions before fully committing themselves to follow a set course. Indeed, this flexibility to act and react has long been considered a great strength of monetary policy.

After two years of experience with projecting monetary growth ranges, the Federal Reserve still takes care to note that it does not focus exclusive attention on the monetary aggregates, and that the projections are always subject to change in the light of subsequent economic and financial developments. Moreover, the Federal Reserve has pointed out time and again that it is neither possible nor desirable to attempt close control over the growth of the monetary aggregates during short periods of time, say, a few weeks or even months—a point which I am afraid has not yet been convincing to our own bond traders as they attempt to interpret, and often overinterpret, the significance of the money supply figures we release in New York late every Thursday afternoon.

All these qualifications and reservations are important. Yet, I have become increasingly convinced that this experiment in “practical monetarism” is proving useful. Over time, I believe it can play a part in restoring a sense of greater stability and confidence in monetary policy and in our economic performance.

Within our Federal Reserve councils, the longer

range money supply projections have already provided a useful discipline for our debate. Any monetary authority faces a constant flow of new information—and thus a decision about whether to react or not. Obviously, there are dangers in reacting too fast and too much. The results of any new action may not be evident for many months, when the situation may be quite different. But equally, there are dangers in reacting too slowly or not at all. The risks in either direction are reduced when each new piece of information must be taken into account in relation to an earlier judgment and a longer perspective about the appropriate growth in the money supply.

Potentially as important is the communication of our specific ranges for monetary growth clearly to others—whether to the political authorities in the Congress and the Administration, or to business, labor, and the marketplace. It is one thing to repeat again and again, as central bankers are apt to do, our dedication to

If the new approach to aggregates proves useful in helping to achieve stability in our domestic economies, the benefits should be reflected in an increased degree of stability in our international economic relationships as well.

the general proposition that, while encouraging growth, we also want to encourage a gradual return to price stability. It is quite another thing to present, defend, and *stick to* specific numbers for monetary growth consistent with that objective.

Obviously, credibility in that respect is crucial. It can only be earned over time. That process will be speeded if we continue to specify clearly our objectives and to defend our approach in public debate.

I suspect this kind of thinking has influenced other central banks that have also adopted some form of monetary “targeting” for periods of a year or so ahead. Of course, the details differ.

You are more familiar than I am with the particular policies instituted late in 1975 by the Bank of Canada. Unlike the Federal Reserve, the Bank of Canada targets only one of the monetary aggregates—the narrowly defined money stock, M_1 . The targets have generally not been reviewed publicly as frequently as in the United States. The projected range for M_1 in this country is higher. But these differences must all be interpreted in the light of a different institutional, economic, and political setting. The similarities in approach are much more striking than the differences, including the fact that both central banks have empha-

sized that money growth will gradually have to be reduced below presently specified ranges if price stability is to be restored.

Among European countries, Germany and Switzerland now set annual targets—single points rather than ranges—for monetary aggregates. Germany uses central bank money—a variation of high powered money or the **monetary base**—as the primary target of its operations. Switzerland, like Canada, uses the **narrowly defined money stock** as the single target. But again, the **similarity in concept** is more striking than the variants in detail.

Other countries appear to be moving in the same direction. The British authorities have recently been drawn, little by little, into setting a monetary target, recognizing the value of clarifying the aims of monetary policy at a time of great domestic and exchange rate uncertainty.

Late last year, the authorities in France announced their target for the growth of a broadly defined money stock during 1977. On the other side of the world, Japan appears to be moving cautiously in the same direction. While the Bank of Japan currently does not make public announcements, we know that every quarter it sets targets for the broadly defined money stock.

It is of course too soon to pronounce any final judgment on the success of these experiments in “practical monetarism”; whether they will turn out to be only a passing fad or a really significant change in the way we approach and implement monetary policy. Certainly, we will need to recognize and deal with some potential pitfalls that could arise if the concept is applied too rigidly.

We must constantly be aware that, whatever the stability in the relationship between money and income or gross national product in the long run, there is considerable instability in the relationship over the shorter runs that are relevant to the policymaker. For instance, we in the United States found that the tax rebates we gave to individuals in 1975 pushed monetary growth substantially higher for a month or two because the money was at first deposited in checking accounts. The impact proved temporary. Similar behavior can be anticipated as a result of the rebates that seem almost certain to be given this year. Perhaps more significant is that, over much of the past year and longer, the relationship between money, interest rates, and nominal income has not always been in line with earlier cyclical patterns. That helps, among other things, to explain why most forecasts of rising interest rates went awry.

In circumstances like these, central bankers need to take account of other information beyond the sta-

tistics on monetary growth from week to week or month to month in shaping their policy actions. As we do, we are in the position of constantly balancing the danger of failing to react in a timely way to changes in monetary growth against the danger of reacting too fast and too aggressively. If we choose wrongly, we are forced to retrace our steps as more or better information becomes available.

Clearly, there are risks in not responding in a timely way to bulges or shortfalls in the money supply relative to specified objectives. If a new turn in the statistics turns out to be significant, delays may make it much more difficult to get back on the track of the longer term objective. Moreover, unexpected changes may be telling us something important about economic developments that we would ignore at our peril.

But the danger of overreacting to deviations in the aggregates from targets is just as real. Statistically, in our experience there is a high probability that any deviation from the established trend over a month or two—even of considerable size—will prove temporary. In the United States, at least, most week to week fluctuations can be close to meaningless. Attempts to respond immediately by tightening or easing the supply of reserves will probably only slowly effect the money supply, but in the attempt the market can be whipsawed. More confusion than light might be thrown on our intentions if our short-term gyrations in open market operations serve to confuse what our long-term strategy continues to be.

The importance of this point is reinforced at times when market conditions may deserve attention in their own right. There have been a number of occasions

You will have to try to make sense out of all those monetary data that central banks pour out in ever greater volume, and you will have to learn how the central banks themselves are likely to respond.

when markets were unusually sensitive or disturbed—so much disturbed that a potential impact on business sentiment and financial availabilities could not be ignored. At such times, even relatively small changes in the apparent posture of the Federal Reserve may trigger expectations in the market that are entirely out of proportion to any presumed gain in tracking monetary targets.

More broadly, I think the intellectual emphasis on monetary aggregates has sometimes gone too far in implying that credit market conditions “don’t count”. In the view of some monetarists, market conditions don’t count in the sense that they do not consider

market conditions an independent source of disturbance in the economy, or a legitimate concern of policy. My experience has been to the contrary. There have been a number of occasions in the 1970's when the Federal Reserve had to pay the closest possible attention to particular financial problems and to the potential vulnerability of various credit markets. The recurrent concerns in my country about the capacity of thrift institutions to perform their role as intermediaries between savers and the mortgage market is one example. The potential disturbances growing out of the Penn Central Railroad and the Franklin and the Herstatt Bank affairs are another class of examples. The strain on the municipal bond markets and the concerns about the rising level of losses commercial banks were taking on loans a year or so ago are other cases in point. Those problems had to be dealt with—actually or potentially—by techniques that cannot be encompassed by any simple monetary rule.

All of this presents important questions of approach and tactics in pursuing monetary objectives. Each central bank will have to develop techniques shaped to its own institutions and needs.

But, even after taking account of other policy requirements, the record in adhering to specified monetary targets has so far been fairly good. Here in Canada, as you know, growth in the narrowly defined money supply, despite sharp monthly variations, has been generally consistent with the established target range despite the slippage down to and below the bottom of the range in recent months. Among European countries which have announced single point targets rather than ranges, no central bank has scored a bull's-eye. But the performances have been reasonably close to the mark.

In the United States, too, growth of the monetary aggregates during 1976 was broadly consistent with the Federal Reserve's long-run projections. Measured from the fourth quarter of 1975 to the fourth quarter of 1976, M_1 advanced by 5.5 percent—well within the range announced for that period. At the same time, growth rates of the broader aggregates were close to the upper ends of their respective ranges.

I recognize that the point can be made that this record has been achieved, at least in my country, in a rather favorable environment. Specifically, we were able to realize our monetary objectives within a context of economic growth, some abatement of inflationary pressures, and generally stable interest rates. In this view, the real test will come only when financial pressures, or concerns about the course of economic activity, become greater and, therefore, generate strong new demands for money creation as the solution for such problems.

I would agree that the strength of the commitment of central banks to the new approach remains to be challenged in adversity. But perhaps it would also be correct to suggest that monetary policy has to some degree facilitated achieving the improvement in economic conditions.

In the end, the new approach will have to stand or fall on the basis of how well it is rooted in reality, on the validity of the basic proposition that excessive growth in the money supply can only feed inflation, and that it will not assist us in meeting our underlying

I think the intellectual emphasis on monetary aggregates has sometimes gone too far in implying that credit market conditions "don't count".

goal of sustained prosperity. My own judgment is that we already have ample evidence that strong inflationary forces, and a renewal of inflationary expectations, will damage rather than help our prospects for employment and growth. What remains to be seen is whether those propositions have become so widely and clearly understood that the old temptations to turn to the printing press in the effort to reach our objectives can be resisted.

In recent years, some of the old hallmarks of sound and responsible policies—particularly fixed exchange rates and balanced budgets—have been weakened or destroyed. They broke down at least in part because, applied too rigidly, they no longer fit the realities of the time. But I suspect that the loss of those anchors for policy—however understandable and justifiable—has something to do with the sense of uncertainty and instability that has been so prevalent in this decade.

I hope the new focus on containing monetary growth can fill some of that void. In substance, the concept is relatively straightforward and readily understood. It embodies an essential truth in a manner that can be clearly communicated. Performance can be readily monitored. In that sense, both the symbols and substance of effective monetary policy can be brought together in a comprehensible way.

If the new approach in fact proves useful in helping to achieve stability in our domestic economies, the benefits should be reflected in an increased degree of stability in our international economic relationships as well. To be sure, economic, political, and social conditions vary from country to country. Among other consequences of that fact, we can expect different rates of inflation to persist for some time. And, faced with

unique circumstances, different central banks will choose different goals for monetary growth.

All of this will influence exchange rates. Indeed, changes in exchange rates should not be resisted—ultimately they cannot be resisted—when they reflect deep-seated changes in relative economic circumstances.

What we can reasonably seek is an environment in which those exchange rate changes take place relatively smoothly, without the exaggerations and sense of turbulence, uncertainty, and crisis that have been so common in recent years. It seems to me evident that that basic objective will be served as the domestic intentions of the monetary authorities become more predictable, and as confidence in the domestic monetary framework grows. As I see it, the practice of specifying monetary targets will contribute to that end. But, of course, we need to do more than simply set targets. We will need to demonstrate our ability to adhere to the targets. And we will need to act to bring monetary growth targets gradually down to noninflationary levels.

We still have a long way to go before we can claim

success. Those of us responsible for monetary policy will need to develop the new techniques and to resolve many problems of tactics as well as strategy. In our own actions, we will need to justify and make credible our claims that inflation can be brought under control.

Those of you dealing in financial markets will also need to adjust and to learn. First, you will have to try to make sense out of all those monetary data that central banks pour out in ever greater volume, and you will have to learn how the central banks themselves are likely to respond. Ultimately, as you gain confidence, I hope you will also see the profit potential in taking a longer view about securities prices and exchange rates. I also hope that you will come to appreciate the risks and dangers of following the crowd in response to the latest fad or fears.

I welcome this process of adjustment and learning. I have high hopes that the new approaches toward money management I have discussed tonight can help point us toward greater stability in both our domestic economies and in the exchange rate system. With a little patience and fortitude, I believe those present hopes can be converted to firm expectations.

Monetary Objectives and Monetary Policy

Richard G. Davis
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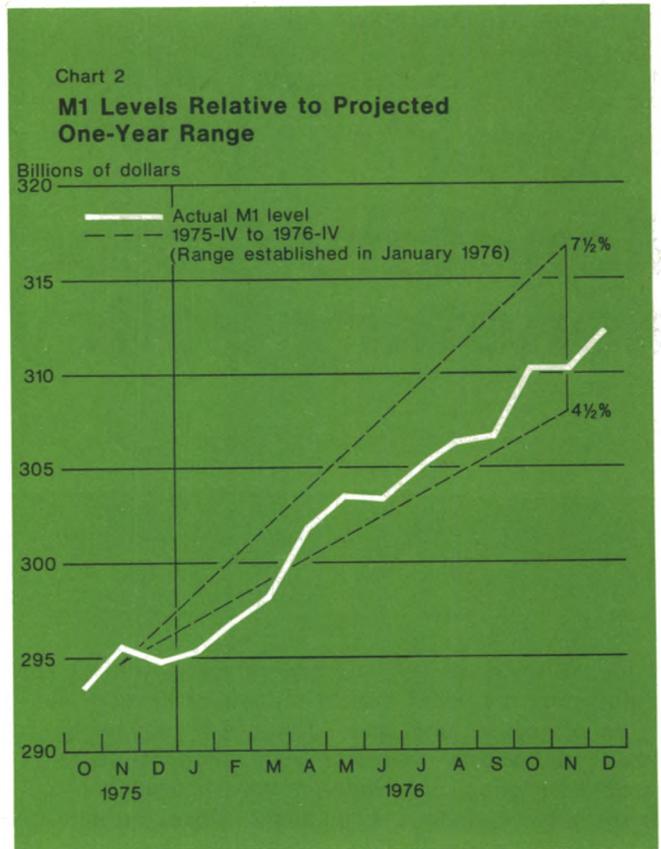
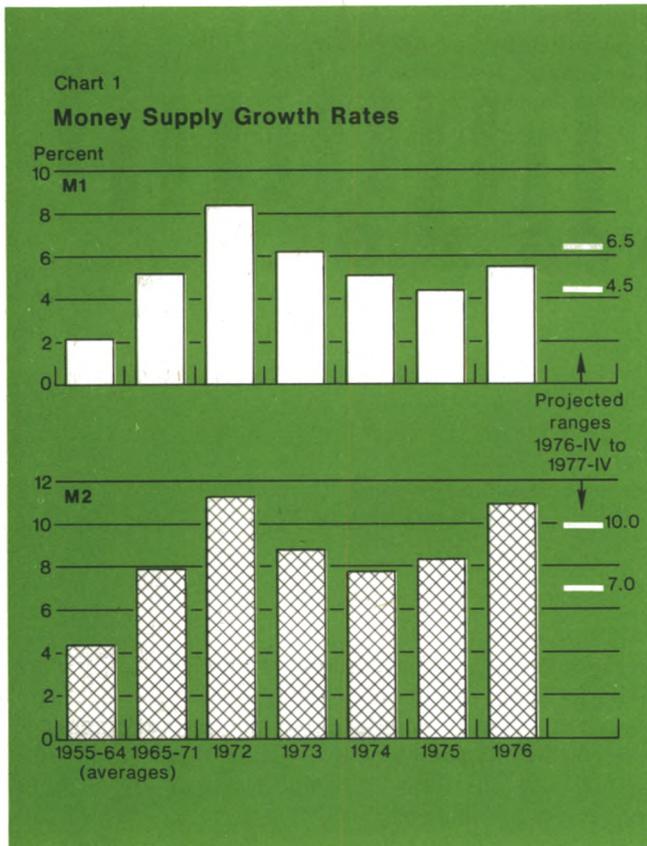
Since the spring of 1975 the Federal Reserve has been announcing projected growth ranges for several measures of money and bank credit. The use of such monetary "targets" raises a wide range of issues in monetary economics, from the rather narrowly technical to the more broadly philosophical. Since the subject is vast and time is limited, I shall have to be content with a terse and selective summary of some of the main issues posed by the use of monetary targets. Specifically, I want to (1) describe the procedures for setting projected monetary growth ranges currently in use, (2) try to suggest some historical reasons for the evolution of these procedures, (3) describe the broad strategic considerations that enter into the setting of the monetary growth ranges, (4) discuss some general problems in determining just what numerical values should be chosen under given circumstances, and (5) discuss some problems in realizing projected growth ranges once they are set.

Under the current procedure, the Chairman of the Federal Reserve Board announces projected growth ranges for the coming four-quarter period in quarterly presentations to (alternately) the House and Senate banking committees. These presentations are made in response to a joint Concurrent Resolution of the House and Senate passed in March 1975.

At the outset I should perhaps note that the term "targets", often applied to these monetary growth ranges, actually has no particular official standing. Indeed in some respects the term is misleading since it may seem to imply that particular numerical values for the money supply, rather than the general health

of the economy, is the "target" of policy. And it may seem to imply a degree of rigidity with regard to the pursuit of these money supply ranges that does not exist. Notwithstanding these difficulties, I will frequently use the term "target" for lack of a more convenient alternative.

The ranges themselves are defined in terms of upper and lower limits for growth rates in three definitions of the money supply (and one of bank credit) as measured from the most recent quarterly average levels to the prospective levels four quarters ahead. The current target period thus covers growth over a one-year period ending with the fourth quarter of 1977. The group of monetary measures that are targeted at the moment includes M_1 (currency plus demand deposits), M_2 (M_1 plus commercial bank time and savings deposits other than large negotiable CDs), and M_3 (M_2 plus deposits and shares at mutual savings banks and savings and loan associations). Chart 1 shows the current growth rate ranges for M_1 and M_2 and compares them with actual growth rates over some recent past periods. While the targets are stated in growth rate terms, given the base period levels, these growth rates can of course also be translated directly into upper and lower limits on the dollar levels four quarters hence. A translation into dollar levels is sometimes useful as a means of following how the aggregates may be tracking relative to the targets. Chart 2 shows the growth path of M_1 over the four quarters of 1976 relative to the upper and lower limits implied by the target growth rates at the beginning of 1976.



Historical evolution

Quite apart from the immediate impetus to publicly announced monetary targets provided by the Congressional Concurrent Resolution, the present targeting procedure represents the product of a long evolution in thinking over the postwar period. When active countercyclical monetary policy first got under way in the postwar period, the Federal Reserve faced a new situation and new objectives for which the experience of earlier decades really offered little guidance. Clearly, one of the main objectives of policy was to provide countercyclical ballast. This meant "tightening" when expansion threatened to become unsustainably exuberant and "easing" when the economy became soft. At first, it was pretty much universal practice both inside and outside the Federal Reserve to calibrate policy in terms of money market conditions or the behavior of short-term interest rates. Policy was said to be "easing" or "easy" when short-term rates were falling or low and to be "tightening" or "tight" when rates were rising or high.

After some experience with this framework, however, it became evident that the behavior of interest rates

was not always a good way to calibrate the impact of policy. The trouble was that, even in the short run, interest rate movements depend only in part on what the Federal Reserve does and much more on what the economy itself does by way of generating demands for money and credit. As a result, interest rates can give off misleading signals of policy's impact at crucial junctures in the business cycle, with the movements in rates reflecting the effect not of policy but of cyclical developments in the economy itself.

Perhaps the *locus classicus* of such situations occurred in early 1960 when the economy went into recession and interest rates fell even though bank reserves and the money supply continued to contract until the middle of the year. The conjunction of a falling money supply and bank reserves along with falling interest rates made it quite clear that declining rates reflected weakening credit demands at a time when the economy was going into recession. Under such conditions, it didn't seem to make much sense to describe monetary policy as "easy" simply because interest rates were falling. The feeling spread in the 1960's that this kind of situation might not be at all

rare and indeed might be a systematic feature of business-cycle behavior. As a result, wariness about identifying monetary "tightness" and "ease" with interest rate movements increased. At the same time, the advantages of identifying policy directly by the behavior of movements in the money supply and bank reserves seemed to become more apparent.

This trend in thinking was clearly also spurred by a roughly concurrent increase in the popularity of "monetarism"—a view that claims a dominant importance for the behavior of the money supply in determining a wide range of short and longer run economic developments. Nevertheless, there is little intrinsic connection between the question of what indexes to use in measuring and guiding monetary policy and the larger issues posed by monetarism about the behavior of the economy as a whole.

In any case, the accelerating rates of inflation we began to experience in the late 1960's undoubtedly further undermined confidence in the use of interest rates and increased the appeal of monetary aggregates as measures of policy. With the relatively high rates of inflation that emerged in the late 1960's, an old idea resurfaced, namely, that actual market rates of interest really consist of two parts: (1) a so-called "real" rate of interest which equals the market rate adjusted for any depreciation in the purchasing power of the principal over the life of the loan and (2) an inflationary component to compensate for this depreciation.

With high and variable rates of inflation, given market interest rates obviously will not have a constant meaning in terms of the real "tightness" or "ease" they imply about financial markets. Under these conditions the behavior of market rates becomes a rather elastic measuring rod. Moreover, even if the monetary authorities could in theory control at least some nominal interest rates by pegging the prices of some debt instruments, they have no control at all over the "real" interest rate, i.e., the nominal rate adjusted for inflation. Finally, the emergence of inflation over recent years as an absolutely first-rank economic problem has tended to reemphasize the long-run strategic importance of monetary growth rates.

The strategy of setting monetary targets

To return to the current practices regarding monetary targets, it is easy, at least on one level, to describe how the numerical monetary target ranges are set. Procedurally, the result is the outcome of a vote by the Federal Open Market Committee (FOMC). In choosing among alternatives, the individual Committee members obviously vote for that set of target numbers they think is most likely to produce good results for the economy

over the coming year *given the information at hand*. For each member, this decision depends upon two elements: (1) his preferences among possible outcomes for the economy and (2) his views about what outcomes are in fact likely to result from the choice of particular target ranges. The economics staffs at the Board of Governors of the Federal Reserve System and at the Reserve Banks try to provide some assistance on this latter aspect of the problem by trying to project the consequences for the economy of alternative target ranges. These projections may be made in a variety of ways, ranging from the use of econometric models to purely judgmental projections, with various combinations in between. Obviously, however, the various staff judgments will not always agree, will not always be right, and will not always be accepted by the Committee members.

Immediate circumstances aside, Chairman Arthur F. Burns and other senior Federal Reserve officials, including President Paul A. Volcker of the New York Reserve Bank, have frequently emphasized that the overall process of setting monetary aggregate targets has been influenced since its inception by a longer run strategy: This strategy is one of gradually bringing down growth rates in money to levels that in the long run may prove compatible with price stability.

The linkage suggested by this strategy between the longer run behavior of money and price stability, however, does not necessarily imply a "monetarist" view of inflation—certainly not in the sense of believing, as Milton Friedman has put it, that inflation is "always and everywhere a purely monetary phenomenon". The events of the past few years, it seems to me, should have made it clear that, in the short run, inflation can lead a life of its own quite independent of current or past monetary development. The 12 percent inflation of 1974, for example, was clearly traceable in a large part to special factors and cannot be explained by monetary growth alone.

But on a longer term basis, it doesn't take much massaging of the data to suggest a general if imperfect parallelism between monetary growth and inflation (Chart 3). Even over this longer run, there is a serious question under present day conditions as to whether the causality doesn't run as much from prices to money as from money to prices. Central banks and governments all over the world have often found themselves under intense pressure to validate price increases stemming from nonmonetary sources because the short-run alternatives have seemed to be pressures on interest rates and employment. Consequently, although in a narrow, purely economic view of the inflation problem, rapid monetary growth might be regarded as the "cause" of long-run inflation, a

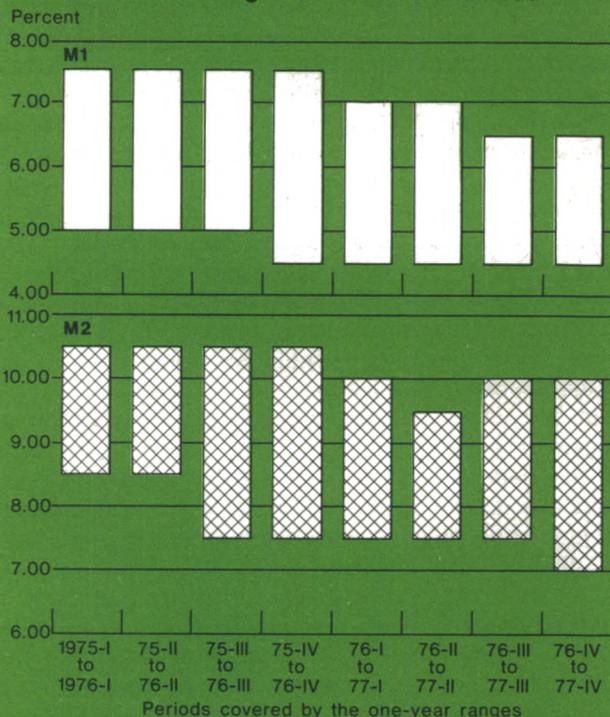
more comprehensive view of the entire process must put the blame on a multitude of political, social, and economic pressures. These pressures have given an inflationary bias to modern economies, one that has often been accommodated by monetary expansion simply because in the short run this has seemed to be the least undesirable among available alternatives.

Yet despite reservations about purely monetary theories of inflation, economists do generally agree that avoidance of excessive monetary growth is at least a necessary—though not necessarily a sufficient—condition for long-run price stability. Thus, it was evident by 1972 that a long-term strategy of gradually slowing monetary growth rates had become desirable. As Chart 1 shows, growth rates did in fact slow in 1973 and 1974 but, beginning in 1975, the pressing immediate problem of ensuring an adequate economic recovery became a factor. Nevertheless, the longer term objective of gradually lowering monetary growth rates has continued to be reaffirmed—most recently in February by Chairman Burns in his regular quarterly testimony to the Congress. As Chart 4 shows, all but one of the eight individual changes in monetary target

Chart 3
Money and Price Changes in the Long Run
 Changes at annual rates, measured from 12 quarters earlier



Chart 4
M1 and M2 Ranges for One Year Ahead



ranges for M_1 and M_2 that have been made over the past two years have been in the direction of modest downward adjustments in the upper or lower ends of the ranges of one or more of the money supply measures.

The current targets are clearly still well above the levels that would be likely to prove consistent with long-run price stability. To be sure, no one can say with certainty just what these growth rates are, but the historical record seems to suggest rough estimates of about 1 to 2 percent for M_1 and about 3 to 4 percent for M_2 .

Movements to such levels could not be made all at once, however. Inflation, once set in motion, tends to be extremely persistent under modern conditions, even after demand pressures have disappeared. Thus at least *some* inflation seems inevitable, no matter what monetary policy does, for a certain period ahead. If monetary growth rates do not take this fact into account, they risk being insufficient to finance adequate growth of real economic activity. This consideration provides a strong reason for setting monetary targets under these conditions above levels appropriate for

long-run price stability, moving down to those levels as inflation recedes.

Problems in setting targets

A major problem in setting targets is that there can be slippages in the relationship between money and the economy over periods of time and in orders of magnitude substantial enough to be important to policymakers. To the extent that such slippages exist, determining target levels needed to achieve any given economic result will have to involve a significant amount of judgment. The existence of slippages means that appropriate target ranges simply cannot be mechanically deduced from past behavior—as would be implied, for example, by a literal and uncritical use of projections from an econometric model.

The relationship between the growth of money and the growth of GNP can deviate from past patterns, for example, if the public's desire to hold money balances under given conditions—the “demand for money function” in the parlance of economists—changes. No one thinks the demand for money under given conditions is absolutely stable, but there are substantial differences of opinion as to just how important shifts in money demand may be. We have recently had highly suggestive (to me) evidence that the demand for money can in fact deviate far enough from the norm to have quite significant policy implications. Thus, over the first year of the current economic expansion, the income velocity (turnover) of M_1 balances rose very rapidly, by almost 8 percent. It is normal for velocity to rise at above-trend rates the first year of economic expansion, but the 1975-76 rise was abnormally rapid even so—the rate of increase exceeded the average for the four preceding upturns by nearly 60 percent. What is most striking about this abnormally rapid rise in velocity is that it occurred despite some net downward drift in the yields on a wide range of financial instruments (including common stocks) that are alternatives to holding money. Economists assume that declines in such yields ought to *reduce* the incentive to economize on noninterest-bearing M_1 balances. Thus they would normally expect interest rate declines to *reduce* velocity or at least slow its growth, not to produce the unusually rapid increase that actually occurred.

That velocity did, nevertheless, increase so rapidly suggests a weakened desire to hold money balances under given conditions. And there have been some institutional developments recently that could explain a shift of funds out of M_1 balances. These developments—including the spreading use of NOW accounts and the opening-up of savings accounts to business, for example—could explain the apparent reduction in the demand for M_1 balances that the figures on velocity

seem to imply. The point of all of this is simply that anyone looking ahead at the very beginning of the recovery and trying to guess an appropriate rate of M_1 expansion for the year ahead would have had a real problem. Relying on past statistical relationships alone would have led him to a serious overestimate of the M_1 growth needed to finance the rather vigorous 13 percent growth of nominal GNP that actually occurred.

A second technical problem that complicates setting aggregate targets has to do with the changing relationships among the various monetary measures that are targeted. Over the years, M_2 and M_3 have on average grown more rapidly than M_1 (Chart 5). Thus under normal circumstances we would expect the M_2 and M_3 target ranges to be above the corresponding M_1 ranges—as they have over the past two years. Complicating the problem, however, is the fact that the differentials between the growth rates of M_1 and the other two measures have at times varied sharply.

The explanation for these shifting relative growth rates lies mainly in the sensitivity of the time and savings deposits included in M_2 and M_3 (but not in M_1) to competition from open market instruments, such

Chart 5
Long-term Trends in Growth of
 M_1 , M_2 , and M_3
Changes at annual rates from 12 quarters earlier

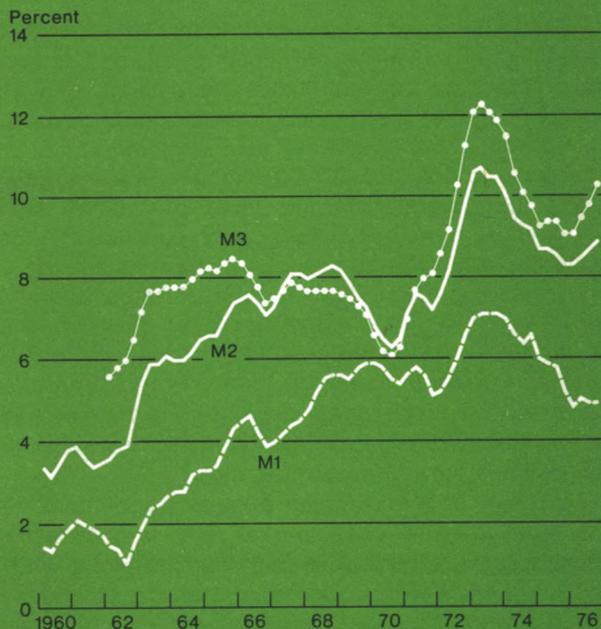


Chart 6

Behavior of M₁: Narrow Money SupplyChanges from previous month
Annual rates, seasonally adjusted

as Treasury bills and commercial paper. This sensitivity in itself might cause no particular problem if interest rate differentials between time and savings deposits and open market instruments were roughly constant. But, in fact, these interest rate differentials show rather sizable changes. These changes, in turn, follow roughly the overall average level of interest rates as it varies with the business cycle. In part, the changes in interest rate differentials result from Regulation Q, which puts limits on deposit interest rates and thus may prevent them from following market rates up when the latter are rising. But Regulation Q is only part of the story. For various reasons, deposit rates tend to be slow to adjust to changes in competing market rates even when market rates are relatively low and the legal ceilings are not a consideration.

The result of the sluggish adjustment of bank deposit rates to rising open market rates is often a flow of funds out of interest-bearing deposits along with a corresponding slowdown in M_2 and M_3 growth relative to M_1 . Conversely, when market rates are falling, funds tend to flow back into time and savings accounts, resulting in abnormally rapid M_2 and M_3 growth relative

to M_1 . These movements clearly can create some dilemmas in setting targets. Over the past year, for example, M_1 grew 5.5 percent, about the middle of the 4½ to 7½ percent target range set early in the year, while M_2 grew by about 10.9 percent, somewhat above the upper end of its 7½ to 10½ percent range. The unusually wide spread between M_1 and M_2 growth in 1976 undoubtedly did reflect in large part the unusual declines in open market interest rates during the year. These declines clearly encouraged massive flows of funds out of market instruments and into the various types of time and savings deposits.

What is the proper attitude to take toward the unusually rapid growth rates of M_2 and M_3 in these circumstances? One possibility is simply to make some allowances for the fact that interest rate relationships between deposits and market instruments are out of line with their long-run equilibria and adjust upward the target ranges for M_2 and M_3 relative to M_1 . This in fact is what the FOMC did at its October meeting. (The change was subsequently modified in January as bank time and savings deposit rates seemed to be adjusting downward to a more normal relationship with market rates.)

Problems in hitting targets

Not only are there difficult problems in setting targets, there are equally difficult problems in achieving them once set. The trouble starts from the fact that the Federal Reserve does not control the money supply directly. Its direct influence is limited to the volume of reserves supplied through its open market operations, the terms and conditions on which it permits banks to obtain reserves through the discount window, and the level at which it sets required reserve ratios. Obviously, these tools are very important influences on the level of the money supply. Indeed, over a sufficiently long time horizon, they may be essentially determining. Nevertheless, the short-run slippage can be—and often is—enormous.

Week-to-week and even month-to-month figures on the seasonally adjusted annual growth rates in any of the monetary measures represent little more than statistical “noise” (Chart 6). These short-run movements are often heavily influenced, if not dominated, simply by problems of seasonal adjustment. It is hard to overemphasize the influence that seasonal adjustment procedures alone, with their inevitable uncertainties, can have over short-run annual growth rates computed for the monetary aggregates. Last year, for example, the difference between seasonally adjusted and unadjusted monthly changes at annual rates in M_1 varied from 4.5 percentage points (in March) to as high as 38.4 percentage points (in Feb-

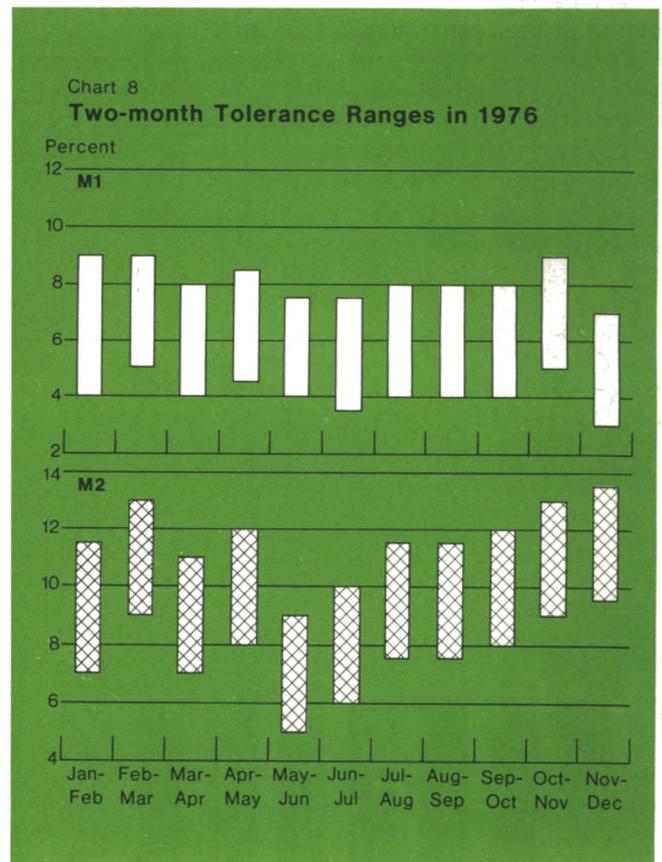
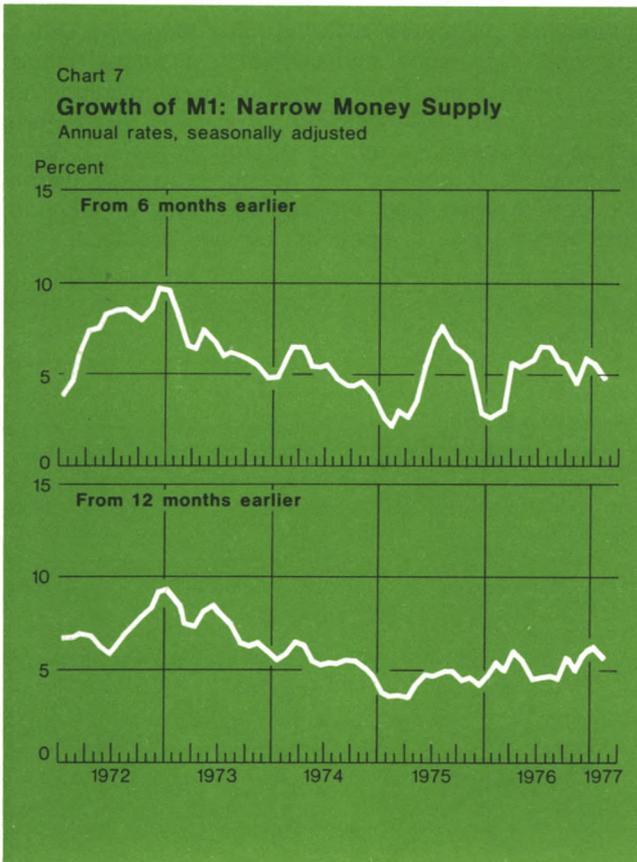
ruary). Even on a quarterly average basis, seasonality is critical, with differences between adjusted and unadjusted annual rates of growth amounting to as much as 6.4 percentage points (in the fourth quarter). Obviously, uncertainties about the appropriate seasonal adjustment factors can translate into large uncertainties about annualized growth rates even over periods as long as a quarter.

Seasonality aside, other important short-run influences on monetary growth rates include flows between the public and the Treasury and shifts in the volume of trading on financial markets. These factors can have a substantial impact, at least temporarily, on the public's holdings of demand deposit balances. As a result, monetary growth rates tend to fluctuate sharply and erratically in the short run. To get a meaningful feel for how monetary growth rates are developing, it is really necessary to look at time horizons of six months or longer (Chart 7).

The erratic character of short-run monetary movements greatly complicates the task of deciding whether corrective actions are needed to achieve longer run targets. If no action is taken, there is a risk

that the errors will cumulate and that temporary deviations will turn into long-run misses. If, however, action is taken prematurely to offset a random movement that would have corrected itself, the action will soon have to be reversed. In this case the end result may be unnecessary disturbances in reserve supplies and money market conditions.

There is, unfortunately, no really good way to detect when short-run deviations in monetary growth from longer run targets are truly temporary and when they reflect more fundamental developments. Judgment, and the concomitant risk of error, is unavoidable in these situations. To avoid overreacting to short-term developments, the Federal Reserve has in practice tended to "tolerate" short-run swings in monetary growth rates over fairly wide ranges. The limits to such "toleration" have usually been expressed as upper and lower limits on two-month average growth rates—known, obviously enough, as "tolerance ranges". These ranges are set at levels that reflect the Open Market Committee's estimates of the various short-run influences that may be impinging on the monetary aggregates at any given time. As a result,



the short-term tolerance ranges for any particular two-month period may differ significantly from the underlying one-year target ranges (Chart 8). Moreover, reflecting the highly unpredictable nature of short-term movements, the percentage point spreads embodied in the two-month tolerance ranges have normally been set wider than the spreads contained in the one-year target ranges.

The Federal Reserve is constantly looking for ways to improve its forecasts, and therefore its potential control, of short-run movements in the monetary aggregates. It is possible that over time, better data, changed institutional arrangements, more refined forecasting procedures, and improved tactical methods could lead to better short-run control. My own view, however, is that much of the problem of erratic short-run movements is likely to prove rather intractable. Some economists have suggested that improved short-run control could be achieved by making forecasts of the (nonborrowed) reserve-deposit multiplier* over the month ahead, then simply supplying nonborrowed reserves in line with the desired level of deposits. While such a procedure may have some attractions, I have seen nothing to suggest that this technique would by itself significantly reduce the inherent difficulties of short-term monetary control.

To put the problem of short-term control in perspective, however, there seems to be little or no evidence that short-run fluctuations in monetary growth rates, even over periods of up to six months, have major impacts on the economy. Thus, it may be that

* That is, the multiple that the total of banking system deposits is of total banking system nonborrowed reserves.

the problem of short-run control is really not intolerably serious, however vexing it may be to those that have to try to deal with it.

Conclusion

Even this short review of monetary aggregate targets clearly indicates that there are many problems connected with them: problems in setting the targets, problems in hitting the targets, and indeed limits to what the approach can accomplish in improving the performance of the economy. In no sense has the use of monetary targets been able to turn what used to be called the "art" of central banking into a rigid mechanical process for controlling and monitoring the flow of money and credit. Judgment is required in determining at what levels the targets should be set and under what conditions and in what ways they should be changed. Judgment is also required in making the week-to-week and month-to-month decisions with regard to open market operations appropriate to achieving the targets. And, finally, judgment is required in deciding how to respond when monetary performance seems to be getting out of line with what had been expected and intended.

Nevertheless, despite all these caveats, the setting of monetary objectives covering fairly long time spans—however provisional and subject to change—seems to me one of the more constructive innovations in macroeconomic policymaking of recent years—not just in this country, but in others as well. It is a development, moreover, that seems especially useful in a period when high and variable rates of inflation have become one of our most serious problems.

The Implementation of Monetary Policy in 1976

The Federal Open Market Committee (FOMC), in setting open market policy in 1976, sought to foster economic expansion following the 1974-75 recession and to achieve further moderation in the rate of inflation. The dampening of inflationary expectations that emerged contributed to a considerable decline in long-term interest rates and, over the course of the year, the credit markets financed another large Federal deficit more readily than had been generally anticipated.

The Committee's decisions were heavily influenced by its perception of the tempo of the economic recovery, which first speeded up and then slowed down. A surge in activity early in the year generated expectations of continued strong economic expansion that might necessitate actions to restrain growth of the monetary aggregates. When the aggregates grew strongly in the spring, the Committee began limiting the extent to which it accommodated the demand for member bank reserves. As the summer progressed, however, the rate of economic expansion moderated and growth of the labor force began to exceed growth of employment. The rate of monetary expansion also receded. Gradually, the FOMC shifted emphasis to

promote a step-up in the growth of the aggregates through a more accommodative approach to the provision of reserves. By the year-end the pace of economic advance seemed to be quickening once more.

In formulating its broad policy approach, the Committee continued to focus on a one-year time horizon for growth of the monetary and credit aggregates. It also adopted short-run instructions that prescribed a Trading Desk response, through open market operations, to indications of undesired strength or weakness in the monetary aggregates. The Committee's instructions to the Account Management were in essentially the same format as in recent years. In implementing its instructions, the Trading Desk found market participants in 1976 acutely sensitive to movements in the monetary aggregates as well as to the conduct of open market operations. At the same time, recent changes in the Treasury's cash management policies increased the volatility of Treasury cash balances and thereby posed difficult operational challenges to the Desk.

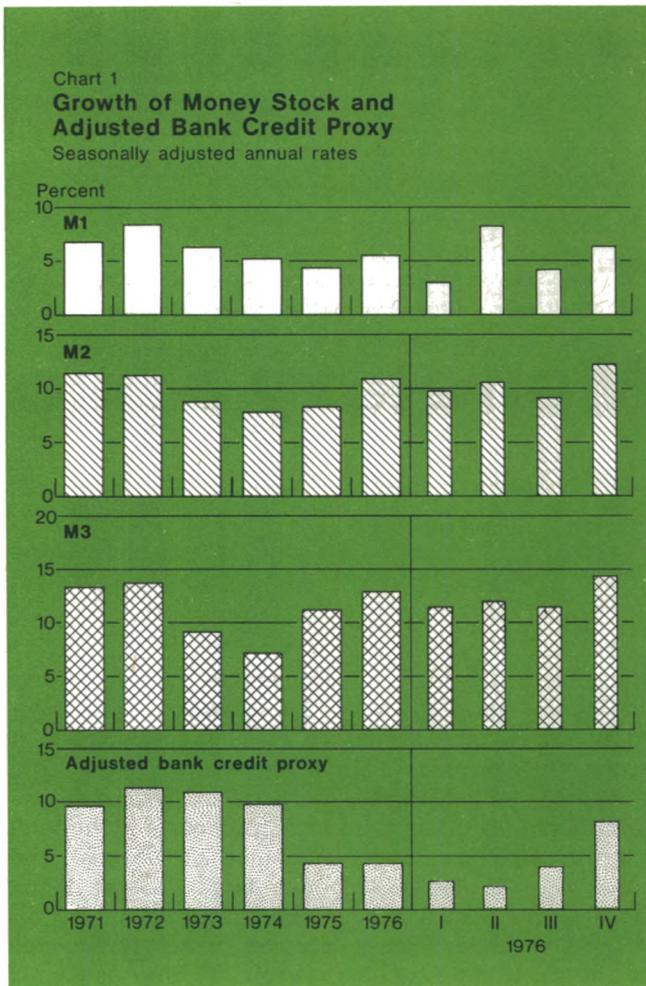
This report focuses on the Trading Desk's implementation of the FOMC's directives during the year. After presenting an overview of the Committee's policy decisions in 1976, it describes the procedures used by the Desk to bring reserve supplies into line with the Committee's objectives. It discusses particularly interesting periods in detail in order to illustrate how the Desk carried out operations against the background of the sensitive financial environment that prevailed over much of the year.

A report by Alan R. Holmes and Peter D. Sternlight. Mr. Holmes is Executive Vice President of the Federal Reserve Bank of New York and Manager of the System Open Market Account. Mr. Sternlight is Senior Vice President of the Bank and Deputy Manager for Domestic Operations of the System Open Market Account. John S. Hill, Senior Economist, and Christopher J. McCurdy, Economist, were primarily responsible for the preparation of this report, which is adapted from the Annual Report on Open Market Operations for 1976 submitted to the Federal Open Market Committee.

Establishing growth ranges

In seeking both sustainable economic expansion and a reduction of price inflation, the Committee on balance lowered its ranges for annual growth of the major monetary aggregates (see table). At its October 1975 meeting, the Committee had set a range of 5 to 7½ percent for growth of M_1 —demand deposits plus currency in the hands of the public—over the four-quarter period ended in the third quarter of 1976. In January 1976, it reduced the lower limit of this longer run range by ½ percentage point. Later it narrowed the range through two ½ percentage point reductions in the upper end. Thus, the range adopted for M_1 in November 1976 for the annual period ending in the third quarter of 1977 was 4½ to 6½ percent.¹ The annual range for M_2 — M_1 plus time and savings deposits at commercial banks other than large negotiable certificates of deposit (CDs)—had been set at 7½ to 10½ percent at the October 1975 FOMC meeting and the range was reduced, on balance, through subsequent modifications, to 7½ to 10 percent for the annual period ending in the third quarter of 1977. At the October 1975 meeting the Committee had adopted a range of 9 to 12 percent for M_3 — M_2 plus deposits at thrift institutions. A range of 9 to 11½ percent was established about a year later in November 1976.²

The Committee, in assessing the growth of the monetary aggregates early in the year, expected the demand for money to pick up in view of projected gains in economic activity. There had been an unusually rapid increase in the income velocity of M_1 in the second half of 1975. However, there was uncertainty whether innovations in the management of cash would continue to depress the rate at which demand balances would grow, given the expected gains in income and prevailing interest rate levels. After a slow start, M_1 growth strengthened markedly during



the spring and reached an average annual rate of 7 percent, seasonally adjusted, over the first five months of the year. Its expansion moderated thereafter, and only in October did it again display significant strength.

Measured from the fourth quarter of 1975 to the fourth quarter of 1976, M_1 increased 5½ percent. Commercial bank time and savings deposits other than large CDs grew rapidly during the year, as the interest rates on passbook accounts proved attractive in comparison with market rates. Consequently, M_2 grew by 11 percent (see Chart 1).

Implementation of the FOMC's policy objectives

Efforts of the Open Market Committee to achieve its longer run objectives required continuing judgments on the extent to which open market operations should supply nonborrowed reserves in relation to the de-

¹ One factor influencing the Committee's decision to reduce the growth range in November was increasing efficiency in the use of cash balances. The growth of transactions balances held in the form of M_1 was curtailed by the growing use of overdraft facilities, NOW accounts, savings accounts that permit telephonic transfers to checking accounts or settlement of monthly bills, and savings accounts by businesses and state and local governments. One study by John Paulus and Stephen H. Axilrod (Board of Governors of the Federal Reserve System, "Recent Regulatory Changes and Financial Innovations Affecting the Growth of the Monetary Aggregates") indicated that, without these developments, the growth of M_1 in the year ended in the third quarter of 1976 might have been roughly 1½ to 2 percentage points higher than actually occurred.

² The upper ends of the ranges for M_2 and M_3 were reduced around midyear, but they were raised slightly in November because time and savings deposit inflows appeared likely to remain heavy, given that market interest rates had declined relative to those paid by banks and thrift institutions.

mand for them. After a brief move toward augmenting reserve availability and lowering the Federal funds rate during the first two weeks in January, the Committee was content to see Federal funds continue to trade around 4¾ percent through the winter. Policy directives issued following the January and February meetings instructed the Account Management to maintain prevailing money market conditions unless the growth rates of the monetary aggregates appeared to be deviating significantly from the midpoints of their specified short-run ranges. Indications of strong growth of the aggregates at the end of February led to a very slight shift toward a less accommodative stance, but this was reversed soon afterward on the basis of further information.

The Committee continued to hold to a steady course until mid-April. Then, rapid growth of the aggregates, especially in M_1 , and evidence of a vigorous economic expansion prompted a shift toward a less accommodative stance that had been long expected in the financial markets. The System provided nonborrowed reserves less freely, and the Federal funds rate rose by ¾ percentage point over the next six-week period to 5½ percent by the end of May.

During the second half of the year, as evidence developed that overall economic growth had slowed, the thrust of open market operations was toward easier money market conditions. The initial approach of the Committee was relatively cautious. At the June meeting it set a narrower than usual range for movements in the Federal funds rate, and at the August meeting it stressed the maintenance of stability in money market conditions. As concern about the economic outlook increased, however, at its September meeting the Committee opted for a Federal funds rate range that provided more room for downward than for upward movement. Thereafter, the Committee acted to promote a more accommodative financial climate. The

trading level for Federal funds declined in three stages from about 5½ percent at midyear to around 4½ percent at the year-end.

Behavior of financial markets

Expectations of market participants were greatly responsible for the sharp rise in interest rates that developed during the spring. Even though interest rates had declined substantially since the previous autumn, market participants generally anticipated a cyclical upturn in rates during the year. Their expectations were based on a presumption that expanded private credit demands would compete with heavy Federal borrowing in a period when the Federal Reserve was likely to be taking steps to restrain growth of the money stock.

When reserve conditions did tighten briefly in late February, market interest rates rose sharply and returned to previous levels only gradually, even after the tightening in reserves proved to be temporary. When the Federal funds rate rose 75 basis points between mid-April and late May, other short-term rates advanced by as much as 80 to 100 basis points; long-term yields rose roughly 40 basis points. In the market for Treasury securities these rate increases were larger than the declines that had developed earlier in the year (see Chart 2).

These expectations that interest rates would rise over the rest of the year proved wrong. Economic growth decelerated in the second half, while the Federal deficit turned out to be smaller than had been anticipated. Domestic corporations reduced their borrowings in the bond market in the second half as capital spending recovered slowly. This environment led investors—flush with cash and encouraged by the progress being made in dampening inflationary forces—to push yields significantly lower over the final seven months of the year. By December, rates on Treasury bills were as much as 125 basis points below the levels

Federal Open Market Committee's Annual Growth Ranges for Monetary Aggregates and Adjusted Bank Credit Proxy

Seasonally adjusted annual percentage rates

Period	Month established	M_1	M_2	M_3	Credit proxy
1975-III to 1976-III	October 1975	5 to 7½	7½ to 10½	9 to 12	6 to 9
1975-IV to 1976-IV	January 1976	4½ to 7½	7½ to 10½	9 to 12	6 to 9
1976-I to 1977-I	April 1976	4½ to 7	7½ to 10	9 to 12	6 to 9
1976-II to 1977-II	July 1976	4½ to 7	7½ to 9½	9 to 11	5 to 8
1976-III to 1977-III	November 1976	4½ to 6½	7½ to 10	9 to 11½	5 to 8

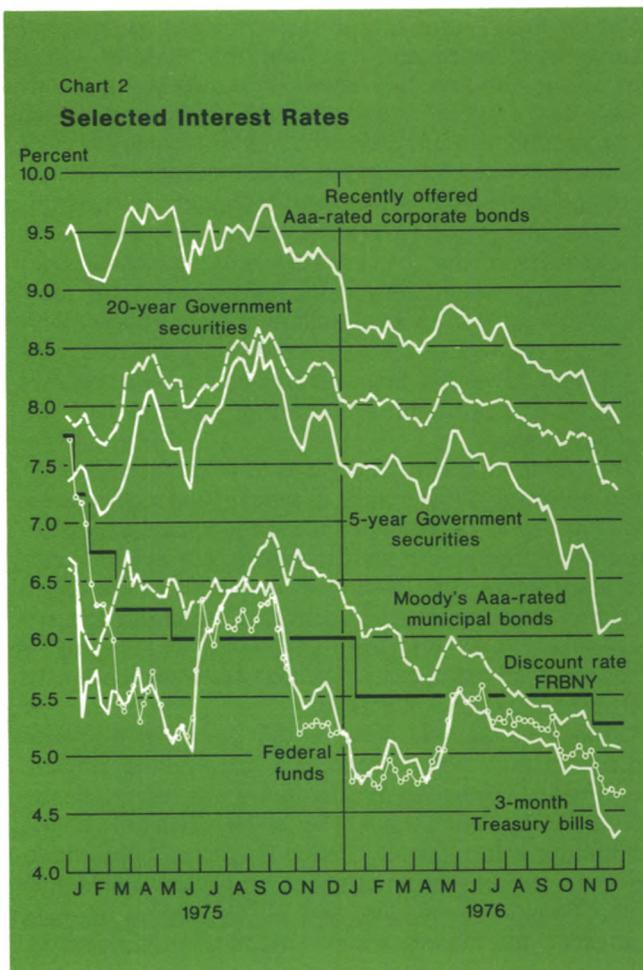
that had prevailed at the beginning of the year. Yields on long-term Treasury issues were down by about 75 basis points, while those on corporate and tax-exempt issues showed substantially larger declines. In some markets, long-term interest rates were at their lowest levels in about three years.

During 1976 the Treasury raised \$58 billion of new cash, second only to the record amount raised in 1975. It also extended the average maturity of its debt for the first year since 1964. It continued to regularize its debt offerings and to reduce uncertainty about prospective financings by keeping the market informed about its borrowing plans. The Treasury filled the remaining maturities in its monthly two-year note cycle and established quarterly four- and five-year note cycles. New Federal legislation aided the Treasury's debt extension program by extending the maximum maturity of Treasury notes from seven years to ten years and by increasing from \$10 billion to \$17 billion the amount of long-term bonds that could be issued without regard to the 4¼ percent interest rate ceiling.

The Treasury took advantage of this added flexibility by offering an intermediate-term note and a long-term bond in each of its quarterly refundings as well as a short-term two- or three-year note. In the first three refundings the Treasury sold one seven-year and two ten-year notes, with fixed coupons and prices, through subscription. All other securities were sold on an auction basis. The subscription sales drew heavy demand for the attractively priced notes, enabling the Treasury to increase the total size of the subscription issues to \$18.5 billion, \$7.5 billion more than the amounts initially offered.

The volume of secondary market trading in United States Government securities expanded considerably in 1976; flurries of speculative activity contributed to periods of unusual price volatility. The increase in trading activity stemmed partly from the large volume of Treasury financing. But there was also a surge in the trading activity of portfolio managers who sought to outperform the rate of return provided by more conservative investment strategies. Traders necessarily sought to anticipate the future course of rates by analyzing economic and monetary data as they appeared and by projecting the data yet to be published. In this environment, participants were often quick to react, or to overreact, to new data that they thought might presage shifts in monetary policy and credit conditions.

Most sectors of the economy added further to their liquidity, continuing the rebuilding process that had dominated credit markets in the previous year. Corporate borrowers flocked to the bond market during the first half, reducing their short-term debt and seeking to secure long-term funds before the expected rise



in interest rates. At the same time, favorable cash flows generated by the rebound in corporate profits allowed businesses to finance a substantial portion of their capital needs internally. As a result, the pickup in short-term business borrowing from banks and in the commercial paper market over the second half of the year fell short of participants' anticipations. Moreover, the entire rebound in the aggregate of business loans at banks reflected acquisitions of bankers' acceptances.

Commercial banks, disappointed by the slack demands of their business customers, turned to buying intermediate-term Treasury coupon securities in order to take advantage of the higher returns available toward the longer end of the upwardly sloping yield curve. Thrift institutions easily accommodated the rising demand for mortgages as their deposits continued to expand rapidly. In addition, they continued to rebuild their liquidity, although not by so much as in 1975.

Long-term tax-exempt issues posted larger yield declines over the year than taxable securities. Investors largely overcame the acute fears that had been triggered by New York City's financial problems in late 1975—although New York City itself did not regain access to the market for its own obligations. In addition, with an improved earnings position, fire and casualty insurance companies expanded their interest in tax-exempt securities, and commercial banks also showed some renewed interest in such issues as the year progressed.

Techniques of Policy Implementation

The FOMC's instructions to the Manager of the System Open Market Account regarding the management of bank reserves provide—to a considerable extent—for the accommodation of the public's demand for money in the short run, while at the same time prescribing a response when growth of money appears inconsistent with the Committee's long-term objectives. At each meeting the Committee specifies conditions to be achieved for bank reserve availability as measured by the Federal funds rate. It also specifies a procedure for changing the Federal funds rate within designated limits if current projections of growth in the monetary aggregates indicate significant weakness or strength relative to ranges specified by the Committee for the two-month period covering the month of the latest meeting and the following month (see Chart 3).

In 1976, the Committee instructed the Desk to assign approximately equal weight to M_1 and M_2 in evaluating the short-run behavior of the aggregates, rather than placing primary emphasis on M_1 as it had in the past. The Committee continued to include in its directive an instruction that the Manager take account of developments in the domestic and international financial markets.

Following each FOMC meeting, the Account Manager seeks to achieve the Committee's current objectives through operations in Treasury and Federal agency securities and bankers' acceptances. Decisions about the size and type of operations and their timing are based partly on projections of reserve availability. The Manager also looks to the behavior of the Federal funds rate for additional information on factors affecting the supply of, and demand for, bank reserves. But participants in the Federal funds market have become more reluctant to trade at rates which they perceive to be out of line with the System's objective. Thus, the role of the funds rate as a short-run objective for open market operations tends to reduce its usefulness as a guide to reserve availability. Furthermore, the Man-

ager, in shaping open market operations, has to take into account the sensitivity of market expectations to the behavior of the funds rate.

In evaluating the prospective behavior of the Federal funds market, the Manager and his staff seek to appraise the demand for, and supply of, bank reserves over the statement week ending on Wednesday. Member banks must meet their reserve requirements on average each week, and in addition they hold some margin of excess reserves as the result of the rapid shift of balances within the banking system. Required reserves are determined by deposits on the banks' books two weeks earlier and are thus known by each bank and the Federal Reserve at the start of the statement week. The Manager estimates the excess reserves that banks are likely to hold, taking into account seasonal deposit flows, the size and distribution of reserve excesses (or deficiencies) carried over from the previous week, the presence of holidays or statement publishing dates, and interest rate movements. The Manager then has in hand an estimate of the total reserves likely to be demanded by the banking system in the current week.

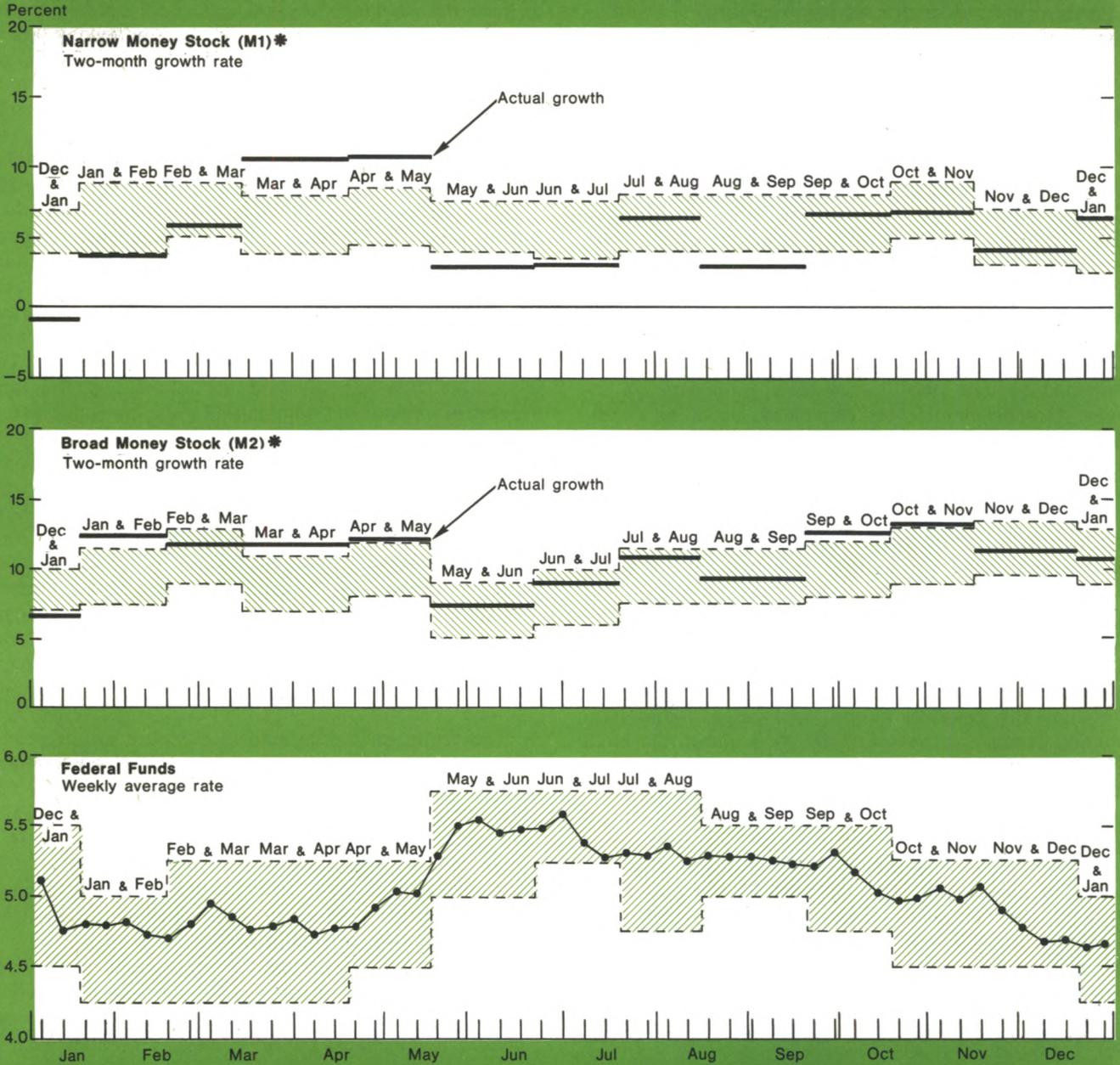
With these demand considerations in mind, the Manager reviews projections of the supply of nonborrowed reserves in the banking system for the week. These projections estimate the impact on reserves of "market factors", such as Federal Reserve float, currency in circulation, and the Treasury's balance at the Federal Reserve Banks. The Manager will then have an estimate of nonborrowed reserve levels stretching out four to six weeks into the future, based on the assumption that the Trading Desk takes no action to affect reserves.

The Manager is thus able to compare the projected level of nonborrowed reserves over the week ahead with estimates of total reserves demanded. He can then determine the appropriate volume of reserves to be added or subtracted on a daily average basis if open market operations are to maintain the existing rate on Federal funds. In doing this, account is taken of the expected addition to reserves likely to arise from borrowings at the discount window.

The Manager's approach to operations each week is shaped partly with an eye on the extent to which nonborrowed reserves in subsequent weeks are expected to fall short of, or exceed, projected reserve requirements. If reserve deficits extend into future weeks, the Desk is more likely to use outright purchases of securities to meet a reserve need. If the need is temporary, greater reliance on repurchase agreements is likely. Conversely, when reserve surpluses are projected over several weeks, outright sales and redemptions of maturing securities may be appropriate.

Chart 3

FOMC Ranges for Short-run Monetary Growth and for the Federal Funds Rate, 1976



Shaded bands in the upper two charts are the FOMC's specified ranges for money supply growth over the two-month periods indicated; in the bottom chart they are the specified ranges for Federal funds rate variation. Actual growth rates in the upper two charts are based on data available at the time of the second FOMC meeting after the end of each period.

* Seasonally adjusted annual rates.

If there is only a temporary need to absorb reserves, matched sale-purchase transactions are employed.³

The Manager also relies on the behavior of trading in Federal funds as a source of additional information on the supply and demand forces affecting the money market. The Desk may defer putting its program into effect until the trading level of Federal funds in the money market confirms the statistical estimates of reserve availability. Care is taken to avoid actions that might lead to misinterpretation of the System's intentions by market participants. Thus, when a need to supply reserves is anticipated, the Manager may wait for the funds rate to edge up at least to or above the operational objective before entering the market. When an overabundance of reserves is projected, the Manager may wait for the funds rate to edge down at least to or below the objective before entering the market to absorb reserves.

At times, the money market may not reflect the projected conditions of reserve abundance or scarcity. In this case the Manager may merely delay carrying out his plans to affect reserves. However, when reserves are estimated to be abundant (scarce) and the funds rate threatens to rise (fall) significantly above (below) the desired level, that situation calls into question the accuracy of the estimates of the supply of, and the demand for, reserves. The System's absence from the market in that event could be misleading, and the Manager is likely to enter the market to counteract undesirably firm (easy) conditions.

The value of the Federal funds rate as an indicator of the conditions of reserve availability probably has diminished in recent years. Large shifts in the Treasury's balances at the Reserve Banks have led to much greater day-to-day volatility in the level of non-borrowed reserves. Exposed to such volatility, money position managers at the banks are less likely to

³ The System temporarily adds reserves through repurchase agreements and withdraws reserves through matched sale-purchase transactions. In making repurchase agreements, the Desk enters into a contract under which dealers sell United States Government securities, Federal agency issues, and bankers' acceptances to the System and agree to buy them back at a specified time, usually one day to a week later, at the same price plus a competitively determined rate of return. The Desk generally permits dealers to offer customer securities as well as the dealers' own holdings. Repurchase agreements either may allow dealers to buy securities back at a date earlier than specified initially or may not allow such early withdrawals—an alternative form introduced in 1976. The Manager's decision on the amount of securities to be purchased is partly based on the statistical estimates of reserve supplies. The volume and aggressiveness of the dealers' offerings provide additional information on the size of the reserve need. Under matched sale-purchase transactions the System sells Treasury bills to the market, and at the same time contracts to buy them back on a certain day, usually up to a week later. The rate at which bills are sold and repurchased is set through competitive bidding by the dealers. Matched sale-purchase transactions cannot be terminated before maturity.

react to the immediate ebb and flow of funds because they expect the Federal Reserve to compensate for these massive surges. They appear to be willing to accumulate larger reserve deficits or surpluses before taking offsetting actions in the Federal funds market. Thus, the actual Federal funds rate tends to remain close to the market's perception of the System's objective for the rate until rather late in a statement week.

The primary source of the large shifts in the Treasury's balance has been the Treasury's cash management policy of holding the bulk of its balances at the Federal Reserve Banks rather than in its tax and loan accounts at commercial banks. The Treasury's balance at the Federal Reserve tends to fall early in the month as social security and other regular payments are made and then to rise later in the month when taxes and other revenues are received. The average weekly change in the Treasury's balance at the Reserve Banks amounted to \$2 billion in 1976, a 45 percent increase from 1975 and a fourfold increase from 1974. In fourteen weeks in 1976 the change exceeded \$3 billion. As a result, the Trading Desk undertook substantially enlarged operations just to counteract short-run swings in bank reserves (see Chart 4).

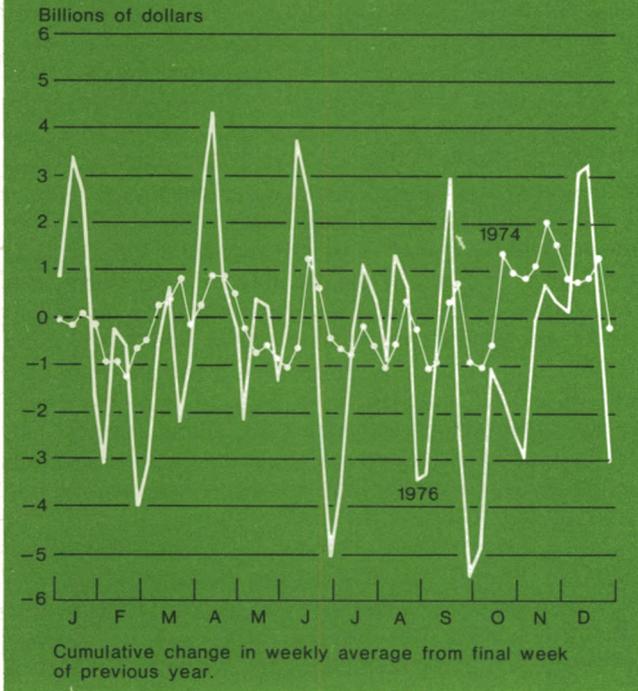
Faced with shifts in reserves of this magnitude, the Manager often needs to enter the market very early in the week to take offsetting action. But the reserve estimates available at the start of a week are often in error—by about \$490 million on average in 1976, a 55 percent increase from the year before. Since Federal funds tend to trade close to the market's perception of the Desk's objective, it is difficult to get confirmation from the money market of the magnitude of the reserve need or surplus before the calendar weekend. To deal with this situation the Manager may seek to compensate for a major part of the reserve swings by announcing, on Wednesday, intentions to supply or to absorb reserves on the first day of the forthcoming statement period.⁴ Even so, the scale of operations needed after the weekend often remained quite large.

The Account Management often has the option of engaging directly in transactions with foreign accounts to carry out System reserve objectives rather than acting as agent to execute these foreign orders with dealers in the market. For example, when the Desk receives foreign orders to buy securities, it may elect

⁴ Reserve operations affecting an entire week have been employed with increasing frequency. The Manager arranged six- or seven-day operations either to add or to absorb reserves during twenty-eight weeks in 1976. Furthermore, nine of the week-long repurchase operations were announced to the dealers on Wednesday afternoon and executed on Thursday morning to allow the dealers additional time to round up securities from customers. Preannouncing also diminished any significance that might be attached to the funds rate prevailing when the transactions were completed the next day.

Chart 4

Effect on Bank Reserves of Changes in Treasury Balance at the Federal Reserve 1976 and 1974



to meet such orders by selling directly from the System's own portfolio at prevailing market prices. Similarly, when the foreign order is to sell securities, the Desk may buy for the System Account. When the Desk arranges foreign transactions with the System Account in this way, the transactions have the same effect on bank reserves as System operations through dealers in the market.

Foreign accounts often also have funds available for overnight investment. When this is the case, the Desk may arrange matched sale-purchase transactions with the System Account to drain reserves overnight rather than act as agent and place these funds in the market as repurchase agreements with dealers. When a reserve abundance is projected, System matched sale-purchase transactions made directly with foreign accounts can help to reduce the excess. Moreover, when the reserve levels are expected to be approximately satisfactory, or in somewhat short supply, and the Federal funds rate is below the desired level, transactions directly with foreign accounts can sometimes be used to encourage a firming of conditions in the money market.

January to mid-April

The FOMC's view at the beginning of the year was that the economy was expanding in an orderly manner, as industrial production, retail sales, and employment all displayed good-sized gains. Although growth in the money supply was expected to rebound from the slow rate that had developed during the second half of 1975, there were significant uncertainties in the forecast. It was difficult to assess the impact on growth of M_1 likely to result from continued technological change in business and household management of cash balances and from the further growth of savings accounts recently authorized for businesses. Moreover, seasonal adjustment of the money supply was problematical, with alternative adjustment techniques producing different results.

Against this background, the Committee preferred not to allow modest deviations in the projected growth of the aggregates relative to the Committee's short-run ranges to prompt changes in the Desk's Federal funds rate objective. The directives issued after the January and February meetings instructed the Manager to maintain prevailing money market conditions unless growth of the aggregates deviated significantly from the mid-points of their specified ranges.⁵ Such a "money market" directive places primary emphasis on maintaining prescribed money market conditions.

At the January 1976 meeting, the Committee specified ranges for the aggregates that were somewhat wider than usual. This specification reduced the likelihood that the Federal funds rate would change. The behavior of the money stock measures was divergent in the weeks that followed, but taken together the estimates for the two months ended in February did not warrant a change in reserve conditions. M_1 remained near the bottom of its range, while M_2 was at or above the top of its range.

A money market directive was also adopted in February. But the aggregates showed strength shortly thereafter, with estimates of both M_1 and M_2 moving well up in their ranges. Accordingly, the Trading Desk sought to hold back slightly on supplying nonborrowed reserves relative to the emerging demand by banks. On Friday, February 27, it began seeking conditions consistent with Federal funds edging up from 4¼ percent to a 4¾ to 4⅞ percent range. That afternoon, when Federal funds were trading at 4⅞ percent, the Desk entered the market as agent to arrange repurchase agreements for customer accounts. This

⁵ When significant weakness had developed in the aggregates during late December and early January, the Desk had lowered the Federal funds rate objective to 4¾ percent.

was contrary to market expectations that the Desk would enter to provide reserves on behalf of the System when funds were trading at that level. It was interpreted by participants as indicating a change in the System's previous stance. The funds rate moved swiftly to 4½ and 5 percent that afternoon, though this occurred when it was too late for the Desk to make any significant volume of repurchase transactions for its own account for payment that day. By Monday, funds were trading at 5 percent and above and the Desk provided reserves in volume. The money market remained unduly tight until shortly before the end of the statement week even though the banking system held a substantial volume of excess reserves at the week's end.

The financial markets had expected interest rates to move higher in view of the improvement in the economy, but the late-February evidence of firming by the System occurred sooner than had been expected. Interest rates moved up sharply: the rate on three-month Treasury bills rose by around 30 basis points over the week, while long-term bond yields moved about 15 basis points higher.

During the following statement week, new data suggested that the aggregates were not, in fact, moving outside the Committee's tolerance ranges, and the Desk returned to the 4¾ percent Federal funds rate objective. A surfeit of reserves was being provided by a declining Treasury balance, but the surfeit had to be reinforced by additional System reserve injections in order to put enough downward pressure on the funds rate to bring it close to 4¾ percent by the week's end. Other markets were somewhat slower to settle back. Participants in these markets continued to view underlying economic conditions as suggesting a rise in short-term rates.

At its March meeting the Committee favored essentially little change in conditions of reserve availability but expressed greater willingness at that point to resist any strengthening that might develop in the monetary aggregates. Consequently, the Committee voted for an "aggregates" directive, the more common form of its operational instructions. Such a directive places primary emphasis on the behavior of the aggregates, thereby establishing a somewhat greater likelihood that conditions of reserve availability will be altered between meetings. The aggregates, in fact, behaved about as expected over the next month, and thus the Federal funds rate remained around 4¾ percent through mid-April.

Mid-April through May

At the April and May meetings the recovery appeared to be proceeding at a vigorous pace, with preliminary

estimates indicating that real gross national product (GNP) had expanded at a 7½ percent rate in the first quarter. The outlook for economic growth appeared bright, with prospects of further inventory accumulation and continued sizable advances in consumer spending. Also the underlying demand for money appeared to be strengthening. M_1 growth in February and March had averaged about 6 percent at an annual rate, and the staff projected very rapid growth in April. Expansion in M_2 and M_3 was also quite fast. Most members preferred to restrain such strong growth of the aggregates and were willing to tolerate some firming in money market conditions after both the April and the May meetings.

At the April meeting the Committee directed the System Account Manager to seek reserve conditions consistent with Federal funds trading around 4¾ percent—within a tolerance range of 4½ to 5¼ percent. In addition, the Committee's directive allowed the Desk to respond further to indications of undesired strength in the money supply. Throughout the interval between the two meetings, expected growth in the aggregates was high relative to the Committee's specified ranges, prompting the Account Management to continue to hold back on nonborrowed reserves in relation to demand. By the time of the May meeting, Federal funds were trading at 5¼ percent, the top of the range. The Committee called for an immediate increase in the Federal funds objective to around 5¾ percent, and by the end of May the Federal funds objective had been raised to 5½ percent under an aggregates directive.

At the time of the April Committee meeting, interest rates on short- and long-term debt had fallen to the lowest levels reached thus far in the year. Three-month Treasury bills traded at rates as low as about 4.70 percent in mid-April, and long-term Government bond yields were down to around 7.80 percent. Still, participants in the markets were cautious about the interest rate outlook as they prepared to face a large volume of offerings during the approaching quarterly Treasury refunding. Indications of vigorous economic growth strengthened market expectations that the System might well resist the rapid growth of the monetary aggregates that was emerging.

During the six weeks from mid-April to late May, when the Desk pursued a less accommodative policy toward reserve provision, the yield curve for Treasury securities moved substantially higher and flattened out a bit. Rates on Treasury bills due in three and six months increased by about 90 basis points; yields on coupon issues maturing in three to seven years moved up by about 55 to 70 basis points; yields on long-term bonds advanced about 35 basis points. During this period bond

quotations became especially volatile, particularly on Thursday afternoons following publication of the weekly money stock series, as participants sought to anticipate future System actions. About three quarters of the overall increase in yields on long-term Treasury bonds over the period was concentrated in market trading late on Thursdays and during the day on Fridays.

One episode during this period provides an interesting setting for examining the methods that the Trading Desk uses to implement System policy as well as the market's response to the Desk's actions and other influences. Operations during the bank statement week running from Thursday, May 6, to Wednesday, May 12, posed a particularly difficult challenge: how to effect a change in the System's posture while contending with volatile reserve flows and sensitive securities markets in the midst of a Treasury refunding operation. Prior to the start of that statement week the System's operations had already led to a rise in the Federal funds rate from about 4¾ percent in mid-April to a 5 percent level in early May.

On the first day, Thursday, May 6, reserve projections indicated that a fall in the Treasury's balance at Federal Reserve Banks would release about \$3 billion of reserves, on average, to the banking system during the statement week beginning that day, although there would be some offsetting reserve absorption by other factors. These estimates thus pointed to an overabundance of about \$1 billion of nonborrowed reserves that week. Federal funds were trading at 4¼ percent, only slightly on the comfortable side of the 5 percent level sought at that time.

In these circumstances the Desk sought initially to absorb reserves unobtrusively, limiting its operations to transactions directly with foreign accounts. The System sold Treasury bills outright to these accounts and also arranged overnight matched sale-purchase transactions with them, thereby meeting overnight investment requirements of the foreign accounts. Since overnight customer orders were not placed in the market on Thursday, participants concluded that the Desk was draining reserves to a certain extent. By early afternoon, however, the weight of the reserve excess began to tell in the money market, with funds threatening to trade at 4⅞ percent. The Desk then entered the market to drain reserves by arranging a moderate amount of four-day matched sale-purchase transactions. These efforts did not affect the expectations of market participants because the Treasury balance typically declines near the start of each month and the need to drain reserves was widely expected.

Through most of Thursday, prices of United States Government securities had been edging lower in quiet activity as the market adjusted to the previous rise in

the Federal funds rate. There was also some nervousness because the market was still awaiting the results of the Treasury's offering of ten-year 7½ percent notes—the centerpiece of the May refinancing—on which subscriptions had been taken on the preceding day. In this atmosphere, the announcement of a large increase in the wholesale price index added to the market's concern about renewed inflationary pressures. Then, late in the day, the weekly money stock data were released, showing a decline of \$800 million in the level of M_1 for the statement week ended April 28. However, this decline was smaller than some market participants had expected and did little to offset the substantial growth recorded in previous weeks. Consequently, market observers grew more concerned that the System might continue to press for a higher trading level of the Federal funds rate. In this uneasy market atmosphere, securities prices continued to decline.

Market weakness persisted on Friday morning after the Treasury announced that it would increase the size of the ten-year note issue by \$1.2 billion to \$4.7 billion because of heavy subscriptions from investors. While dealers and others subscribing for large amounts had been allotted 15 percent of their subscriptions, some of these subscribers by that time were hoping to receive few, if any, of the new notes. Dealers felt uncomfortable with their awards, and there was further downward pressure on prices in advance of the final refunding auction that day of an additional \$750 million of 7½ percent bonds, due February 15, 2000. From the time just prior to the release of the money stock data to the close of trading on Friday, Treasury bill rates rose about 5 to 12 basis points, while prices of intermediate-term Treasury issues fell about ¼ to ⅓ point. Prices of long-term bonds fell about 1½ points, as the market grew less willing to take on additional bonds in the auction.

On Friday morning the new projections of the monetary aggregates continued to show undesirable strength. The data suggested that growth of M_1 would be well above the Committee's 4½ to 8½ percent range specified for the April-May interval, while M_2 was running well up in the 8 to 12 percent range. This information indicated that it would be appropriate for the Desk to seek conditions of reserve availability consistent with the Federal funds rate moving up from about 5 percent to around 5½ percent by Wednesday, the end of the statement week.

In view of the sensitive state of the securities markets in the midst of the Treasury's refunding, the Desk proceeded cautiously in seeking this adjustment. Reserve projections on Friday, May 7, suggested adequate reserve availability because of the System's

operations on the previous day and a substantial downward revision in the estimate of reserves likely to be released by a decline in the Treasury balance. Federal funds traded at $4\frac{1}{8}$ percent and then at 5 percent. In an effort to achieve a firmer money market by Wednesday, the Desk again drained reserves unobtrusively by selling Treasury bills outright and arranging over-the-weekend matched sale-purchase transactions, in both cases with foreign accounts. Given the sensitive state of the securities markets and the Treasury's long bond auction that day, no overt action to drain reserves was taken in the market.

By Monday, new estimates of reserve availability suggested the need to add about \$1 billion to the weekly average, reflecting another large downward revision in the estimates of reserves expected to be provided by the decline in the Treasury balance and other factors. With Federal funds opening at 5 percent, the Desk confined its initial action to a modest purchase of Treasury bills from foreign accounts. When the funds rate began to rise above 5 percent, the Desk entered the market to fill a good portion of the projected reserve deficit by arranging three-day repurchase agreements.

The securities markets remained apprehensive. The bonds sold in Friday's auction had an average yield of 8.19 percent, higher than many had anticipated. Treasury bill rates rose an additional 5 basis points or so during the day, while prices of longer maturity coupon issues fell by nearly $\frac{1}{2}$ point. The corporate market also reflected supply pressures, as unsold issues piled up in dealers' inventories and a heavy forward calendar grew even larger.

On Tuesday, reserve estimates indicated adequate availability for the week, due to the Desk's injection of the previous day and an upward revision in the effect of market factors on reserves of about \$350 million for the week. Federal funds traded predominantly at $5\frac{1}{8}$ percent during the day. The Desk took no action in the market to affect reserve supplies but did drain reserves through matched sale-purchase transactions with foreign accounts to establish conditions that would promote a slightly firmer money market on the following day.

Federal funds traded at $5\frac{1}{8}$ percent on the morning of Wednesday, May 12, and reserve projections indicated a moderate need to add reserves for the statement week ended that day. With conditions in the money markets about as desired, the Desk arranged temporary investment orders from foreign accounts in the market and awaited further developments. Funds traded steadily at $5\frac{1}{8}$ percent until the noon hour and then moved higher. The Desk entered the market at this point to provide reserves through overnight re-

purchase agreements. The funds rate thereafter moved back to about $5\frac{1}{8}$ percent. The credit markets, still digesting the recent Treasury offerings, remained quite sensitive to the Desk's toleration of higher trading levels in Federal funds. Treasury bill rates moved up about 5 to 12 basis points, and prices of coupon issues generally fell by $\frac{1}{8}$ to $\frac{3}{8}$ point.

The Desk's caution during the week stemmed from the fragile state of the securities markets. Until recent years, the System typically tried to avoid changes in its posture with regard to reserve management while the Treasury was formulating its offering and while underwriters were taking on and distributing Treasury securities on a large scale. Such "even keel" considerations have diminished considerably in the past few years. The use of the auction technique for selling coupon securities since 1970 has substantially increased the ability of underwriters to adjust their expectations of future rate levels up to the time of the Treasury's sale. The regularization of the Treasury's debt offerings has also reduced uncertainty regarding the size and timing of the Treasury's borrowings. Furthermore, given the increased frequency of the Treasury's sales of coupon issues, the System could no longer maintain an even keel if it were to retain flexibility in pursuing an open market policy consistent with its long-term objectives. Nonetheless, the sharp rise in interest rates during the May 1976 period had not been fully anticipated in the market, and underwriters incurred significant losses on this occasion.

June to mid-October

In early June, with projections of the aggregates showing a somewhat more moderate growth than in late May, the Manager continued to seek a Federal funds rate of around $5\frac{1}{2}$ percent.

By the June FOMC meeting, economic growth appeared to be slowing from the rapid pace seen earlier in the year, and most members viewed this deceleration as a healthy development. In addition, monetary growth appeared to be settling back to a more acceptable rate. Therefore, while awaiting further information on the economic situation, the Committee favored relative stability in money market conditions, preferring to avoid both a significant easing, which might have to be reversed shortly, and also a significant firming. It adopted an aggregates directive but specified a relatively narrow Federal funds rate range of $5\frac{1}{4}$ to $5\frac{3}{4}$ percent, thus limiting the potential response to deviations in the aggregates. As it turned out, the estimates of M_1 and M_2 weakened in early July, prompting the Manager to provide reserves more readily, and the Federal funds rate fell from around $5\frac{1}{2}$ percent to about $5\frac{1}{4}$ percent by mid-July.

The Committee retained a steady posture with respect to reserve availability over the rest of the summer. While there were signs of hesitation in the pace of the economy, data on consumer and business spending at times suggested that the deceleration could be temporary and similar to those observed in the recovery phases of previous business cycles. At the July meeting, the Committee selected a wider Federal funds rate range as part of the specifications for an aggregates directive, though several members still favored keeping the range narrow in view of the uncertainties in the outlook. These concerns were more widespread in August, and the Committee voted for a money market directive at that time. The aggregates remained well within the specified ranges after both meetings, and the thrust of open market operations was not altered.

During the summer the financial markets began a prolonged rally, which gained considerable momentum in August. The short-term markets were buoyed by the moderation in the growth of the money supply and the overall stability of Federal funds trading. Long-term markets were aided by growing confidence that inflationary pressures were waning and by a cutback in demand from corporate borrowers. From the beginning of June to mid-September, three-month Treasury bill rates fell by about 50 basis points and long-term bond yields declined around 35 basis points. With commercial banks and others extending the maturities of their purchases of Treasury coupon securities, yields on intermediate-term issues registered the largest declines—about 65 basis points.

At the September meeting, FOMC members noted the significant interest rate declines that had been registered in the debt markets. While growth in M_1 had slowed, M_2 was expanding at a relatively rapid pace. As the pause in economic growth persisted, however, more attention was given to the possibility that future growth would fall below expectations. Against this background, the Committee in September voted for an aggregates directive, structuring the Federal funds rate range to permit greater room for easing than for firming. The range was established at 4% to 5½ percent with the focal point at 5¼ percent, thus allowing the possibility of a 50 basis point decline should growth in the aggregates turn out lower than expected at the time of the meeting.

In the statement week that followed the meeting, the week ended September 29, the Federal funds objective remained at 5¼ percent. However, the Account Management experienced considerable difficulty in achieving this objective, as the Treasury's operations drained a larger than expected volume of reserves. Initially, the Desk faced a sizable estimated reserve deficit of \$3½ billion to \$4 billion (daily aver-

age), mainly due to the continuing buildup in the Treasury's accounts at the Federal Reserve Banks after the September 15 tax date. On the first day of that week, the Desk arranged \$3.8 billion of seven-day repurchase agreements, an operation that had been announced to the market on the previous afternoon. While the reserve injections that day about met the week's need, the Manager expected that withdrawals from the repurchase agreements would necessitate further reserve injections late in the week.

Indeed, early terminations of such contracts, which came to \$1.3 billion on a daily average basis, substantially eroded the net reserve injection. Furthermore, upward revisions in the estimates of the Treasury's balance, amounting to \$1.1 billion on average, enlarged the reserve deficit. Consequently, the money market became quite firm beginning on Monday, September 27, and the Desk arranged five additional rounds of repurchase agreements over the rest of the statement week. Despite taking virtually all propositions for repurchase agreements on the final two days, the Desk still was unable to depress the Federal funds rate from around 5% and 5½ percent to the 5¼ percent objective. On Wednesday night, holdings in the repurchase account, including bankers' acceptances, reached a record \$8.7 billion.⁶ The securities markets seemed to show little reaction to the tight conditions after the weekend, partly because they could observe the Desk making every effort to counteract the money market firmness.

To prevent a repetition of the money market strains and the uncertainties associated with sizable early terminations of repurchase agreements, the Desk instituted an alternative form of repurchase contract in the week of October 6, one that did not permit termination before maturity. On the first day of the new statement period, the Desk arranged about \$1.4 billion of such agreements in addition to \$4.6 billion of four-day contracts that carried the right of early termination. As expected, most of the securities involved in the nonterminable contracts came from the portfolios of banks and other institutions while the dealers themselves, both bank and nonbank, exhibited a preference for the terminable contracts.

In early October the projections of the monetary aggregates began to indicate a substantial weakening in the growth of demand deposits for the September-October interval, although M_2 growth remained near the middle of its range. In view of this, the Desk began to seek Federal funds trading in a range of 5¼ to 5½ percent instead of the previous 5¼ percent objective. When subsequent projections confirmed this picture,

⁶ This record was eclipsed on December 29 when such holdings built up to \$10.7 billion.

the Desk became steadily more accommodative, and by the time of the October meeting funds were trading around 5 percent.

Mid-October to the year-end

Most FOMC members favored a slight easing in money market conditions at the October meeting. The economy's lackluster performance continued; the growth of real GNP had slowed a little further in the third quarter from the rather modest pace of the second quarter. Moreover, the risks of a shortfall from expectations had increased, since it appeared that the slow growth of personal income, the protracted sluggishness in consumer spending, and the decline in stock market prices could, if extended, dampen business confidence and adversely affect investment plans. The Committee voted an aggregates directive and decided to seek a decline in the Federal funds rate from 5 percent to 4 $\frac{7}{8}$ percent (the middle of a 4 $\frac{1}{2}$ to 5 $\frac{1}{4}$ percent range) during the first full statement week after the meeting.

A few days after the meeting, however, the outlook for the monetary aggregates displayed surprising strength, with both M_1 and M_2 projected near the upper limits of their tolerance ranges. Moreover, it was apparent that, unless later data contradicted this outlook, an easing move would only have to be reversed one week later. Accordingly, the Committee concurred in the Chairman's recommendation that the Manager should hold the System's posture unchanged. Data received in the following week continued to indicate unexpected strength, and the Manager again consulted with the Chairman who advised that any significant increase in the Federal funds rate objective would be inconsistent with the Committee's intent. The Desk continued to seek reserve conditions consistent with Federal funds trading around 5 percent until the November meeting.

At its November meeting, the Committee concluded after its review of economic and financial developments that a decline in the Federal funds rate to about 4 $\frac{7}{8}$ percent would be appropriate within the first week after the meeting, followed by a further decline to around 4 $\frac{3}{4}$ percent during the second week. The Federal funds rate range was set at 4 $\frac{1}{2}$ to 5 $\frac{1}{4}$ percent. Subsequent changes in the objective would depend on the outlook for the aggregates. This time the monetary growth rates remained closer to expectations, although M_1 growth was slowing. In these circumstances, the Desk held to the 4 $\frac{3}{4}$ percent objective through early December and then shifted to 4 $\frac{5}{8}$ percent when it appeared that M_1 was weakening further.

The deliberations at the December meeting struck a more optimistic chord as most members agreed that

the business situation had strengthened. Indications of strong gains in personal consumption and residential construction suggested that, once the decline in inventory accumulation had run its course, economic growth would soon accelerate. The Committee preferred to maintain the prevailing money market conditions in the weeks ahead. In part, this reflected the difficulties in assessing the significance of monetary growth rates over the December-January period. Also, improvement in the economy and substantial interest rate declines strengthened expectations for the future. The Committee voted a money market directive and the Desk continued aiming for conditions of reserve availability consistent with Federal funds trading at 4 $\frac{5}{8}$ percent through the year's end.

The securities markets extended the summertime rally through the end of the year. Over the last three months, interest rates fell considerably, with both short- and long-term Treasury securities posting declines of about 70 basis points. The economy's sluggish advance through most of the fourth quarter had suggested that two of the markets' major concerns, the possibility of heavy demands from borrowers and a rebound in inflationary pressures, would not prove troublesome for the time being. In addition, very sharp price gains were recorded in the markets during those intervals when the System had shifted toward a more accommodative interest rate stance. In late November and December the markets' perceptions of the Desk's moves toward ease, in conjunction with a reduction in the Federal Reserve discount rate from 5 $\frac{1}{2}$ percent to 5 $\frac{1}{4}$ percent, and a flow of news that emphasized the economy's slow growth generated expectations in the markets of further accommodative steps. The markets also reacted bullishly to the Federal Reserve's reduction in reserve requirements in December. Speculative enthusiasm was widespread among market participants, and dealers built up inventories of Government securities to record levels in December.

Against this background, the retreat in the securities markets that followed in the first few weeks of 1977 was especially pronounced. New economic data indicating a strengthening in business activity, the absence of further accommodative steps by the System, and participants' attempts to capture profits all gave rise to heavy selling pressure. Moreover, there were anxieties over the inflationary pressures that might arise out of the severe winter conditions and the new administration's proposed fiscal stimulus program. By the end of January, the backup in yields on Treasury issues had eliminated a substantial portion of the declines posted in the fourth quarter of 1976; the sell-off in the corporate and tax-exempt sector was less pronounced.

Treasury and Federal Reserve Foreign Exchange Operations

During the August 1976-January 1977 period under review, market participants remained sensitive to the possibility of further sharp rate movements for major currencies, as wide disparities in economic performance persisted among industrial countries. With the pace of economic expansion slowing in several countries during the summer and early fall, many traders became concerned that individual governments might not succeed in achieving greater price stability and payments equilibrium in the face of historically high unemployment rates and mounting political pressures to stimulate domestic demand. Consequently, as the market sought to anticipate both economic developments and possible policy changes, swings in sentiment generated large-scale shifts of funds into and out of some currencies. Among those that had weakened early in 1976, the pound sterling and the Italian lira came under renewed pressure, while other currencies—such as the Mexican peso and the Canadian dollar—were also heavily on offer at various times during the period. Meanwhile, speculation over a realignment within the European Community (EC) currency arrangement put the “snake” margins under renewed pressure. And the Japanese yen was also subjected to reversals in market assessment.

The authorities of several countries moved to bring about internal and external balance in their economies

A report by Alan R. Holmes and Scott E. Pardee.

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and to restore order in the exchange markets. The United Kingdom authorities adopted a program of fiscal and monetary restraint tied to agreement on important medium-term credits. These included a \$3.9 billion standby arrangement with the International Monetary Fund (IMF) and a \$3 billion arrangement with the major central banks and the Bank for International Settlements (BIS) to deal with the official sterling balances. The governments in France and Italy also introduced broad-based stabilization programs, including fiscal and monetary measures and direct controls. In late October, the governments participating in the snake arrangement agreed on a parity realignment in which the German mark was adjusted upward by 2 to 6 percent against its partner currencies. Although many disparities in economic performance remained in early 1977, these various corrective measures were interpreted by the market to be steps in the right direction and therefore helpful in alleviating many of the tensions in the exchanges.

During the period, the dollar was again caught up in the crosscurrents affecting the European markets. But, in addition, sentiment toward the dollar shifted in response to the pause in the United States recovery, which spurred a gradual reassessment of the outlook for interest rates. As United States short-term interest rates declined while comparable rates elsewhere held steady or advanced somewhat, the narrowing in interest rate differentials prompted flows out of dollars. At times, other uncertainties—over the United States election, over our widening trade deficit, and over a potentially large Organization of Petroleum Exporting Countries (OPEC) price hike—had an adverse effect on market psychology. By early January 1977 the dollar had therefore declined by some 10 percent from late-

July levels against the German mark and the other currencies linked to it. Much of the dollar's decline was gradual and trading in New York was generally orderly. But on those days when the market here became unsettled, the Federal Reserve countered with moderate offerings of marks to stabilize trading conditions. Thereafter, however, the market's attitude toward the dollar was buoyed by economic indicators that suggested the United States economy was picking up steam once again and by a reversal in interest differentials as United States rates firmed while those abroad eased. The dollar then came into demand and firmed against the main Continental currencies through end-January.

In exchange market intervention during the August 1976-January 1977 period, the Federal Reserve sold \$175.6 million equivalent of marks, of which \$160.7 million was from balances acquired before and during the period and \$14.9 million was drawn in December under the swap line with the German Bundesbank. That swap drawing was quickly repaid in January when the dollar's buoyancy enabled the System, by purchases in the market and from correspondents, to rebuild balances once again. In all, the System bought \$205.0 million of marks during the six-month period.

Moreover, pursuant to an agreement in late-October between the United States authorities and the Swiss National Bank for repayment in three years of Federal Reserve and United States Treasury debt in Swiss francs outstanding from August 1971, the System repaid \$154.6

million equivalent and the Treasury repaid \$86.1 million equivalent through end-January. Most of the francs were purchased directly from the Swiss National Bank against dollars. But, in addition, \$7.9 million of Swiss francs was acquired from correspondents, while additional francs were bought from the Swiss National Bank against the sale of \$48.1 million equivalent of German marks, \$4.8 million of French francs, and \$0.4 million of Dutch guilders. The marks and French francs came from balances acquired in the market during the period, while the guilders came from existing holdings. Finally, by November, using Belgian francs acquired from correspondents and in the market, the Federal Reserve liquidated the last \$82.4 million equivalent of swap debt to the National Bank of Belgium outstanding since August 1971.

Also during the period the Bank of England drew in September a further \$100 million each on the Federal Reserve and United States Treasury, which was in proportion to British drawings on other participants in the June 1976 standby credit facility. Total drawings on the System and the Treasury were thereby increased to \$300 million each. These drawings were repaid in full at their maturity when the facility terminated on December 9, along with drawings on other participants. The Bank of Mexico repaid an earlier swap drawing of \$360 million on the Federal Reserve and drew a further \$150 million, which it arranged to repay at maturity in February. The Bank of Mexico also drew and

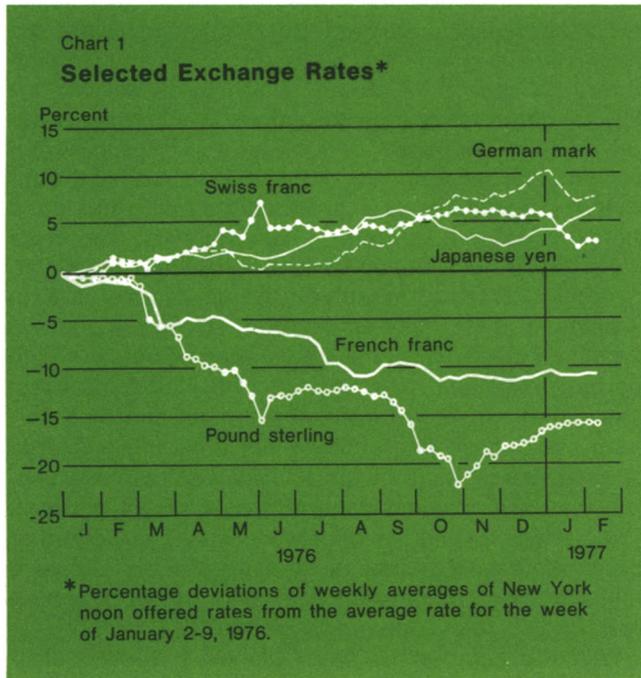
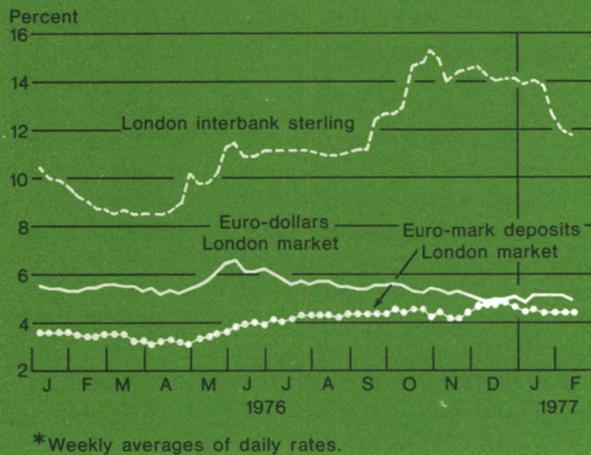


Table 1
Federal Reserve Reciprocal Currency Arrangements
In millions of dollars

Institution	Amount of facility January 31, 1977
Austrian National Bank	\$ 250
National Bank of Belgium	1,000
Bank of Canada	2,000
National Bank of Denmark	250
Bank of England	3,000
Bank of France	2,000
German Federal Bank	2,000
Bank of Italy	3,000
Bank of Japan	2,000
Bank of Mexico	360
Netherlands Bank	500
Bank of Norway	250
Bank of Sweden	300
Swiss National Bank	1,400
Bank for International Settlements:	
Swiss francs-dollars	600
Other authorized European currencies-dollars	1,250
Total	\$20,160

Chart 2
Selected Interest Rates
 Three-month maturities *



repaid a total of \$365 million under a special short-term credit facility initiated in September with the United States Treasury. In addition, that central bank subsequently drew a further \$300 million under the Exchange Stabilization Agreement, of which \$150 million was outstanding at end-January 1977.

German mark

During most of early 1976 the exchange markets were bullish for the German mark. By that time, the economy was expanding smartly. Export growth continued strong enough to keep Germany's trade and current accounts in substantial surplus even though imports were on the rise. And Germany's rate of inflation, at around 5 percent per annum, remained one of the lowest among industrial countries and was continuing to moderate. This picture contrasted sharply with that for many of Germany's trading partners in Europe, where more rapid economic activity was leading to a deterioration in current account balances and upward pressure on wages and prices. Although by early summer the markets had settled down somewhat after the strains of January-March, expectations remained that sooner or later the mark would appreciate against the currencies of other European countries with significantly higher rates of inflation. Thus, the mark held firm at the ceiling of the EC band while the other currencies in the arrangement remained clustered near the bottom.

Meanwhile, against the dollar, the mark leveled off below \$0.3900 in the late spring and early summer, as the market considered the German and United States economies to be broadly in phase, even to the extent

of entering the pause in growth at roughly the same time. Traders nevertheless remained concerned that changing money market conditions might at any time generate a reversal of the heavy volume of funds German banks had previously placed abroad in dollars and other currencies. Moreover, persistent expectations of a mark revaluation against the other EC currencies sometime before or after the German general elections in early October left traders poised to buy marks at the first sign that it was strengthening once again.

Against this background, market speculation over a realignment within the snake was quickly reignited when sizable orders to buy marks triggered a sharp rise in the spot rate late in July. The mark moved quickly to its upper intervention limit against several of the other snake currencies. There it came under recurrent waves of heavy demand during August, as dealers built up mark positions and commercial leads and lags shifted in Germany's favor. The Bundesbank and the other snake central banks intervened forcefully in one another's currencies to keep their exchange rates within the prescribed limits. At the same time the dollar again became caught up in the pressures of the snake and, as the mark strengthened, the Bundesbank purchased sizable amounts of dollars in Frankfurt. To maintain orderly conditions in New York, the Federal Reserve followed up by selling \$15.9 million equivalent of marks from balances on August 16-17, the System's first intervention sales since March.

By September, in the wake of the large-scale official intervention and monetary measures taken in Europe, the immediate pressures within the snake had temporarily tapered off. But sentiment toward the mark remained bullish. News of increased foreign orders on top of an already large trade surplus for July provided an optimistic outlook for Germany's future trade performance. In addition, reports suggesting a continued pause in the United States recovery generated expectations of a protracted decline in United States money market rates, while German rates were expected to hold steady or rise somewhat. Moreover, as sterling dropped sharply in the exchanges early in September, the shift of funds out of sterling into marks magnified the demand for the German currency all the more. Consequently, the market remained fearful that speculation could resurface at any time and that Germany's exchange rate policy might once more emerge as a campaign issue in the final days of a close contest for the upcoming general elections. As a result, trading remained nervous, the Bundesbank made further large purchases of dollars, and the Federal Reserve sold a further \$16.3 million equivalent of marks in New York on two days, September 16 and 24.

With the approach of the October 3 German elec-

tions, the mark came into renewed speculative demand late in September. The snake again became fully extended and the Bundesbank intervened heavily, along with other participating central banks, to maintain the limits. As these tensions resurfaced, the mark also advanced against the dollar following news of another large United States trade deficit and a decline in leading economic indicators for August. After the election, no parity changes were announced but the market was kept on edge by the possibility of a mark revaluation. Thus, the mark remained in demand through midmonth—advancing to \$0.4117, over 6 percent above the levels of late July. The Federal Reserve sold an additional \$20.9 million equivalent of marks from balances when trading became unsettled in New York on October 5-6. Meanwhile, the Bundesbank purchased dollars to moderate the mark's rise. Intervention in snake currencies and in dollars was largely responsible for the \$2.8 billion increase in German reserves during the three months, July-October.

On Sunday, October 17, the EC finance ministers and central bank governors meeting in Frankfurt agreed on a realignment of parities within the joint float to avoid a repetition of the speculative pressures of previous months. The German authorities announced a 2 percent revaluation of the mark which, together with the parity changes by Scandinavian members of the EC monetary arrangement, resulted in a parity adjustment of 2 percent to 6 percent between the mark and other snake currencies. After some initial hesitancy in the market, the mark soon dropped to the bottom of the realigned joint float and, against the snake currencies, it began to trade below levels prevailing before the realignment was announced. By end-October a substantial unwinding of commercial leads and lags was under way. The other central banks participating in the EC monetary agreement quickly took advantage of these reflows to buy marks in the market to repay their indebtedness stemming from previous interventions. These official purchases of marks also had the effect of absorbing some of the liquidity created in Germany as a result of the huge currency inflows of preceding months. To bring the pace of monetary expansion back closer to the target levels for 1976 as a whole, the Bundesbank reinforced the process by selling large amounts of German government securities in the open market.

As a result, the mark did not ease against the dollar as it did against other snake currencies but rose to around \$0.4150. In general, though, trading was well-balanced from the time of the EC realignment to mid-November. Only infrequently did particularly large demands for marks come into the market in a way that put pressure on the mark during the New York trading

day. In particular, the mark became well bid on October 19 and 26, in response to heavy shifts out of sterling, and on November 22 following publication of disappointing economic indicators for the United States. On these occasions of market unsettlement, the Federal Reserve offered marks, selling a total of \$22.9 million equivalent from balances. At other times the Trading Desk was able to purchase modest amounts of marks for System balances mostly from correspondents but also in the market when trading was quiet.

Over the rest of the year, however, the market became increasingly sensitive to the relative progress of the economic recoveries in Germany and the United States. Reports of a steep rise in German industrial output in October gave rise to expectations that money market conditions in the two countries would continue to diverge. To the market, these expectations seemed to be confirmed by the ¼ percentage point cut in Federal Reserve discount rates on November 19 and a technical reduction in reserve requirements announced on December 17. These moves contrasted with the Bundesbank's announcement of an 8 percent target for the growth of central bank money in 1977—a target interpreted as restrictive in view of the much more rapid growth of the preceding months. As a result, interest differentials favorable to the dollar were squeezed out by early December. At the same time, the possibility of a sizable hike in oil prices at the upcoming OPEC talks weighed on the dollar.

Thus, the mark was in demand throughout December, and this demand intensified as German banks

Chart 3
Germany
Movements in exchange rate



*Exchange rates shown in this and the following charts are weekly averages of New York noon offered rates.

†Central rate established on June 29, 1973.

‡New central rate established on October 18, 1976.

sought to satisfy year-end needs by acquiring marks in the exchange market. Most of this bidding for marks was concentrated during the European trading day and, to provide resistance to a cumulative rise in the mark rate, the Bundesbank bought substantial amounts of dollars in Frankfurt. When these pressures spilled over into the New York market, the Federal Reserve followed up with sales of marks on four days during December, for a total of \$74.5 million equivalent. Of this, \$59.6 million equivalent was financed from System balances and \$14.9 million equivalent was drawn under the swap arrangement with the Bundesbank. Nevertheless, the mark had firmed to \$0.4249 by the end of the year, a rise of 3½ percent since the snake realignment of October.

With the dollar declining, dealers had tended to ignore several recent reports pointing to a pickup in United States economic activity—a substantial increase in November's leading economic indicators, a surge in durable goods orders, and strong Christmas retail sales. Instead, after the passing of the year-end and particularly in the light of the mark's recent strength, market professionals began building new long mark-short dollar positions on the expectation that United States interest rates would go still lower and that the United States trade deficit would worsen this year while Germany's trade surplus would increase. Consequently, the mark extended its advance against the dollar, reaching \$0.4274 in Europe on January 4, fully 10¼ percent above late-July 1976 levels. To avoid an even sharper rise, the Bundesbank made sizable dollar purchases. The Federal Reserve followed up by selling \$7.3 million equivalent of marks out of balances before the market turned around.

The shift in sentiment in favor of the dollar followed wire service reports of a 1 percent fall in German industrial production in November. In addition, after the liquidity pressures of the year-end had passed, German short-term interest rates began to ease. Consequently, the mark began to move back on some professional covering. The decline soon gathered momentum as United States interest rates edged somewhat higher, the market reacted favorably to the incoming Carter administration's fiscal stimulus proposals, and substantial amounts of funds flowed out of marks back into sterling. By late January the mark eased back 4 percent to \$0.4101. In cushioning the mark's decline, the Bundesbank sold modest amounts of dollars in Frankfurt while the Federal Reserve bought \$90.1 million equivalent to repay in full its recent swap drawing and to replenish System balances. On January 31, however, widespread publicity about the disruptive economic effects of severe winter conditions in the United States triggered a burst of de-

mand for marks and other European currencies, and the Federal Reserve sold \$17.8 million equivalent of marks from balances to stabilize trading conditions. The mark thus closed the period at \$0.4157, some 7¼ percent above late-July 1976 levels. Meanwhile, by end-January 1977 German reserves had fallen \$1.3 billion from end-October 1976 for a net rise of \$1.5 billion since July 1976.

Sterling

For some time the British economy has been plagued by one of the highest inflation rates in Europe, disappointingly slow economic growth, and a persistently large deficit in its balance of payments. To address these underlying problems, during the spring of 1976 the authorities successfully secured trade union agreement to a second, one-year phase of wage restraint in exchange for some tax relief. For the longer term, the government announced a shift in priorities toward stimulating key industries and away from broad social welfare programs, while seeking to restrain both public and private consumption to make room for export growth. But the delicate balance upon which the government's strategy for gradually achieving economic stability rested was brought into question last spring. Between March and early June, the pound fell by more than 15 percent to \$1.7065 against the dollar and nearly 12 percentage points to 41.9 percent below the December 1971 Smithsonian agreement level on an effective basis against the major currencies. This drop left the market badly shaken. Following announcement of a \$5.3 billion package of standby credits from the Group of Ten countries plus Switzerland and the BIS, the pound recovered some 4 percent from its June low to trade between \$1.77 and \$1.78. The market nevertheless remained volatile, and the British authorities continued to intervene at times in sizable amounts. To replenish reserves, the Bank of England drew late in June \$1.03 billion on the standby facility, including \$200 million under the Federal Reserve swap line and \$200 million from the United States Treasury's Exchange Stabilization Fund.

During the summer the sterling market was in better balance, with the spot rate still above \$1.77, until latent uneasiness about Britain's economic prospects resurfaced in late August. The immediate catalyst for reassessment was the highly publicized water shortage in Britain, resulting from a record drought, which raised the possibility of production and employment cutbacks in several parts of the country. And by then the evident pause in other industrial economies had dimmed hopes that the United Kingdom would be pulled out of recession by rising export demand. At home the economy was stagnant, unemployment was

Table 2

**Federal Reserve System Drawings and Repayments under
Reciprocal Currency Arrangements**

In millions of dollars equivalent; drawings (+) or repayments (-)

Transactions with	System swap commitments, January 1, 1976	1976 I	1976 II	1976 III	1976 IV	1977 January	System swap commitments, January 31, 1977
National Bank of Belgium	297.6	-86.5	- 83.7	-100.0	- 27.4	-0-	-0-
German Federal Bank	-0-	{+133.9 - 26.4	-107.5	-0-	+ 14.9	-14.9	-0-
Netherlands Bank	-0-	{+ 19.6 - 19.6	-0-	-0-	-0-	-0-	-0-
Swiss National Bank	567.2	{+600.0* - 20.0	-0-	-0-	-1,147.2†	-0-	-0-
Bank for International Settlements (Swiss francs)	600.0	-600.0*	-0-	-0-	-0-	-0-	-0-
Total	1,464.8	{+753.5 -752.6	-191.2	-100.0	{+ 14.9 -1,174.6	-14.9	-0-

Discrepancies in totals are due to rounding.

* Consolidation of Swiss franc debt.

† The Federal Reserve repaid the outstanding \$1,147.2 million equivalent of its pre-August 1971 Swiss franc swap indebtedness and took down the same amount on the newly created special swap line designed to refund the short-term obligation into a medium-term obligation, which is being reduced as drawings are repaid over a three-year period (see Table 3).

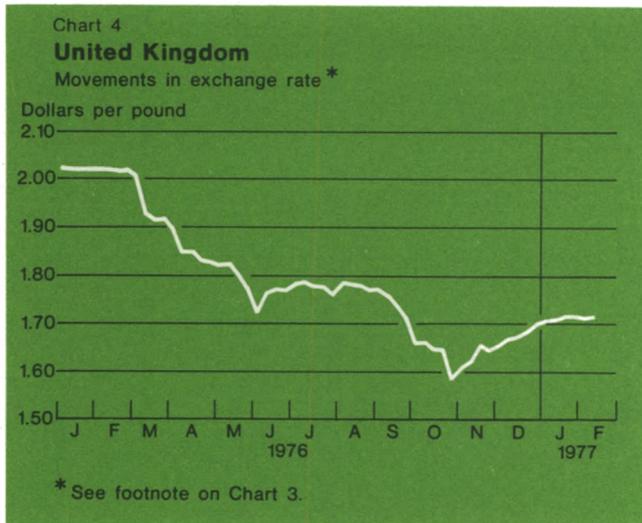
Table 3

**Federal Reserve System Drawings and Repayments under
Special Swap Arrangement with the Swiss National Bank**

In millions of dollars equivalent; drawings (+) or repayments (-)

Transactions with	System swap commitments, January 1, 1976	1976 I	1976 II	1976 III	1976 IV	1977 January	System swap commitments, January 31, 1977
Swiss National Bank	-0-				{+1,147.2 - 96.2	-58.4	992.5
Total	-0-	-0-	-0-	-0-	{+1,147.2 - 96.2	-58.4	992.5

Discrepancies in totals are due to rounding. Data are on a value date basis with the exception of the last two columns which include transactions executed in late January for value after the reporting period.



still increasing, and the inflation rate was beginning to edge upward again, in large part because of spiraling import costs. In addition, the market focused increasingly on the size of Britain's large public sector deficit—even after the government's announcement in July of planned cutbacks in government expenditures for the next fiscal year—as well as on the potential threat of a ballooning in money supply should the debt not be financed through sales of government bonds. The aggregates already had increased rapidly in July, and this was seen not only as a potential source of inflation but also as an indication of large-scale British financing of adverse leads and lags against sterling.

In the face of these various uncertainties, the pound came on offer again in late August. Market sentiment soured further over subsequent weeks on reports of strikes and wage demands beyond the bounds of the government's incomes policy, as well as in reaction to official figures showing a £905 million reduction in foreign official holdings of sterling balances in the second quarter. In response, sizable commercial selling (including outflows to finance third-country trade), several large sell orders thought to have been from the Middle East, and outright dealer positioning against sterling weighed heavily on the pound. At first, the Bank of England provided substantial support to keep the pound around the \$1.77 level. But, when the selling pressure persisted, the authorities cut back on intervention to conserve official reserves. Instead, the Bank of England hiked its minimum lending rate by 1½ percentage points to 13 percent, issued a call for special deposits to drain bank liquidity, and announced a new long-term government bond issue yielding close to 15 percent.

Nevertheless, heavy commercial and professional selling continued, and by late September the pound had been pushed down nearly to \$1.70. At that point, the Labour Party's annual conference provided a platform for sharp criticism of the government's planned public expenditure cuts as well as for demands for import controls to protect British jobs. Following widespread press coverage of these disputes, the pound came under further pressure and was driven below \$1.70. Once the rate moved through this bench mark without meeting any market resistance, the slide quickly gathered momentum, and by September 28 it had plunged to a low of \$1.6320 before steadying somewhat.

To "buy time for the market to give a more positive assessment of government economic policy", Chancellor Healey announced on September 29 that Britain intended to apply for \$3.9 billion in further credits from the IMF to repay borrowings under the June \$5.3 billion standby credit facility scheduled to expire December 9. Also, to offset recent reserve losses, the British authorities again drew on the standby facility, obtaining another \$100 million each from the Federal Reserve and the United States Treasury—amounts which were in proportion to drawings on other countries participating in that facility. Shortly thereafter, the authorities moved further to tighten liquidity and to drive up the cost of financing short sterling positions. The Bank of England raised the minimum lending rate another 2 percentage points to an unprecedented 15 percent, called a second round of special deposits to absorb additional liquidity, and operated forcefully in the market for short-dated swaps.

These policy initiatives drew favorable comments both in the market and from foreign government officials. In addition, the resulting squeeze in the domestic and Euro-sterling money markets helped the pound to steady around \$1.65 during early October. Nevertheless, sterling's 7 percent depreciation from the \$1.77 level left the market fearful that pressure could reemerge at any time. In addition, a disagreement within the Labour Party over the degree of restrictiveness the government should accept in negotiating terms and conditions of the IMF loan introduced another layer of uncertainty into the market.

In this atmosphere, a London newspaper article—alleging that the IMF and the United States Treasury had proposed that the pound be allowed to depreciate to \$1.50 as a precondition for IMF credit—touched off widespread selling of sterling as soon as markets opened on Monday, October 25. Even though the report was firmly denied by IMF, United States, and British officials, the pound dropped precipitously, de-

clining almost 5 percent in early trading. In an attempt to restore order in the market, the Bank of England intervened forcefully. But this quick and unprecedented plunge in the rate left the market thoroughly confused over the appropriate level for sterling and kept the pound vulnerable to every rumor or press report about the IMF loan conditions. Thus, when reports came over the news services that the Labour Party National Executive had voted to oppose further public spending cuts, the pound fell to an all-time low of \$1.5550 on the morning of October 28. At this level, the pound had sunk some 13 percent below end-July levels and to 48.8 percent on a trade-weighted average basis. Meanwhile, during the three months to end-October, reserves dropped over \$600 million, even after the \$515 million of drawings on the June standby facility and the receipt of more than \$500 million in public sector borrowings abroad.

By early in November, however, the pound had bounced back above \$1.60, following the first reports that negotiations might be under way with Germany, Japan, and the United States for major new credits to deal with the problem of official sterling balances. The pound then advanced to the \$1.65 level by midmonth in a turnaround that was partly triggered by new moves by the government to curb outflows and credit expansion. In particular, on November 19, the authorities sealed off a gap in exchange control regulations, through which sizable amounts of funds had flowed out during the summer, by restricting the use of the pound in financing third-country trade—a measure expected to generate a substantial reflow over the subsequent

six months. In addition, the Bank of England reintroduced the supplementary deposit scheme—the so-called “corset” regulation—whereby banks place with the central bank a rising proportion of the increase in interest-bearing deposit liabilities above specified levels.

The pound’s turnaround in November also reflected growing market expectations that the government was reaching an accommodation over the terms of a new IMF package, even if that were to involve severe fiscal restraints. As the market awaited the announcement of new budgetary measures, these expectations solidified and sterling advanced to \$1.6857 by December 15, while the Bank of England bought dollars in the market to moderate the rise. In the budget message that day, the Chancellor announced public spending cuts over the next two fiscal years, increased indirect taxation, and the sale of part of the British government’s holdings in British Petroleum—measures expected to reduce the public sector borrowing requirement as a share of gross domestic product from 9 percent to 6 percent for the 1977-78 fiscal year. The Chancellor also revealed targets for domestic credit expansion over the next three years that would meet IMF conditions for keeping a tight rein on monetary expansion. In addition, to prefinance IMF drawings, he announced standby swap facilities of \$350 million with Germany and of \$500 million with the United States (of which the Federal Reserve and the Exchange Stabilization Fund would each provide \$250 million). Finally, he indicated that there was a general desire among the major countries to achieve a satisfactory arrangement

Table 4
Drawings and Repayments by Foreign Central Banks and the Bank for International Settlements under Reciprocal Currency Arrangements

In millions of dollars; drawings (+) or repayments (—)

Banks drawing on Federal Reserve System	Drawings on Federal Reserve System outstanding January 1, 1976	1976				1977	Drawings on Federal Reserve System outstanding January 31, 1977
		I	II	III	IV	January	
Bank of England	-0-	-0-	+200.0	+100.0	-300.0	-0-	-0-
Bank of Italy	-0-	+500.0	-0-	-500.0	-0-	-0-	-0-
Bank of Mexico	-0-	-0-	+360.0	-0-	{+150.0 -360.0	-0-	150.0
Bank for International Settlements (against German marks)	-0-	-0-	{+ 14.0 - 14.0	{+ 37.0 - 37.0	-0-	-0-	-0-
Total	-0-	+500.0	{+574.0 - 14.0	{+137.0 -537.0	{+150.0 -660.0	-0-	150.0

Table 5

United States Treasury Securities, Foreign Currency Series

In millions of dollars equivalent; issues (+) or redemptions (-)

Issued to	Amount of commitments January 1, 1976	1976 I	1976 II	1976 III	1976 IV	1977 January	Amount of commitments January 31, 1977
Swiss National Bank	1,599.3				-53.6	-32.6	1,513.1
Total	1,599.3	-0-	-0-	-0-	-53.6	-32.6	1,513.1

Data are on a value date basis with the exception of the last two columns which include transactions executed in late January for value after the reporting period.

for the sterling balances.

After some initial hesitancy in the market, the pound was then buoyed by an extreme shortage of funds in the London money market that was only partially alleviated by the Bank of England. As settlements for the growing sales of British government gilt-edged securities drained liquidity from the banking system just before the year-end, the banks bid for balances in the exchanges. In addition, some fairly sizable commercial orders came into the market, also for year-end purposes or for covering open positions taken up earlier in the year. Accordingly, the rise in the pound gradually accelerated during December, and the rate reached \$1.7080 by the month end, some 10 percent above its late-October low. Meanwhile, the Bank of England repaid, upon maturity, its drawings of \$300 million each on the Federal Reserve and the Exchange Stabilization Fund as part of its total \$1.545 billion repayment of outstanding credits on the standby facility. Partly as a result, British reserves fell to \$4.1 billion by the year-end, their lowest level in six years.

In early January, announcement of the IMF's official approval of the \$3.9 billion standby facility for Britain further reassured the market. Moreover, following discussions in Paris and Basle, the central banks of the major industrial countries reached agreement on a plan to deal with the sterling balances. Under this plan, eleven countries (the United States, Germany, Japan, Switzerland, Belgium, the Netherlands, Canada, Austria, Sweden, Norway, and Denmark) would provide up to \$3 billion to the BIS to back up British drawings for financing net reductions in official sterling holdings below December 1976 levels. Of this, the Federal Reserve and the United States Treasury would provide \$1 billion. For their part, the British authorities would offer medium-term foreign-currency-denominated securities to official holders to fund part of the total sterling bal-

ances and to achieve an orderly reduction in the reserve currency role of the pound. The Managing Director of the IMF was also requested to assist in the implementation of the agreement.

Announcement of these agreements early in January triggered a sharp jump in the sterling rate to as high as \$1.7350, before it subsequently leveled off at about \$1.7150. Then, the long process of reversing previously adverse commercial leads and lags and of unwinding sterling credits used in third-country trade financing generated a steady demand for sterling. At the same time, British interest rates moved progressively lower, as reflected in the six cuts in the Bank of England's minimum lending rate from the 15 percent level of mid-November to 12¼ percent on January 28. In addition, the central bank scaled back its earlier calls for special deposits. Under these circumstances, prospects of capital gains spurred some flows of foreign funds into British securities. Late in the month the authorities announced a \$1.5 billion Euro-dollar loan with a syndicate of European and North American commercial banks, which gave a further boost to the pound. As a result, spot sterling traded firmly during January while the Bank of England took the opportunity to buy dollars in the market and to rebuild its official reserve position. At \$1.7149 by the month end, the pound was up 10½ percent from its October low and only 4 percent below late-July 1976 levels. On a trade-weighted average basis, sterling's depreciation since the 1971 Smithsonian agreement had narrowed 6 percentage points from the record reached in October to 42.8 percent, compared with 38.8 percent at end-July 1976. Meanwhile, the Bank of England's large-scale purchases of dollars in January had, along with the initial takedown on Britain's IMF standby, contributed to a \$3.1 billion increase in reserves for the month. As a result, Britain's foreign exchange reserves stood at

\$7.2 billion on January 31, \$1.8 billion more than six months before.

Swiss franc

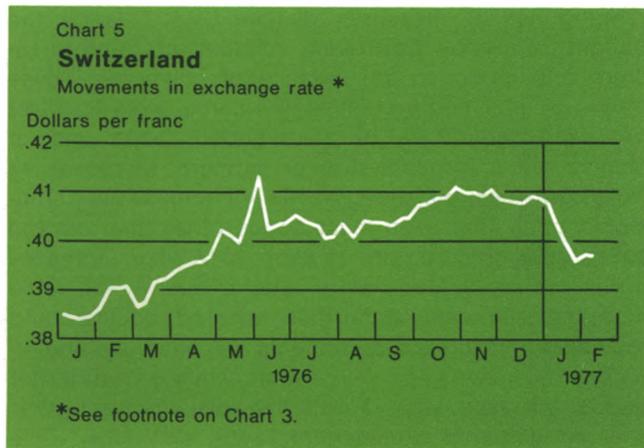
During the first half of 1976, the Swiss franc was propelled progressively higher against all major currencies. Switzerland's inflation rate declined to about 3½ percent, the lowest among the industrial countries, while an unprecedented trade surplus swelled the Swiss current account surplus to nearly 10 percent of GNP. Moreover, large amounts of funds were drawn into francs as market participants sought protection against the severe uncertainties plaguing many other European currencies at the time. At home, however, the Swiss economy was stagnant, with overall economic activity only a little higher than at the trough of the 1975 recession. While the appreciation of the franc helped to reduce import costs significantly, it also led to a deterioration of profitability in Switzerland's export industries and in turn exerted a drag on investment.

Consequently, the Swiss authorities moved to limit the franc's rise in the exchanges. They intervened to buy large amounts of dollars, both in Zurich and through this Bank in New York, offsetting enough of these purchases with sales to foreign borrowers—required to convert the proceeds of their borrowings in Switzerland at the central bank—to avoid jeopardizing the monetary target for the year. Moreover, the Swiss authorities imposed additional exchange controls, restricting the importation of large foreign bank notes in April and adopting quotas in June to curtail forward sales of Swiss currency to nonresidents while entering into a gentleman's agreement whereby Swiss banks would refrain from accepting franc deposits abroad. In addition, the Swiss National Bank reduced its discount and Lombard rates to the lowest levels in ten years to bring down domestic interest rates, and it

indicated a willingness to continue to provide temporary liquidity through dollar swaps with the commercial banks to maintain a comfortable money market.

By late July, these various measures had begun to take effect. The Swiss franc eased back 5¼ percent from its peak levels of early June to \$0.3981, while slipping some 5½ percent lower against the German mark. In contrast to previous periods of turbulence in the exchanges, trading in Swiss francs remained relatively quiet as renewed tensions built up in the EC snake during August. Now that interest rates in Switzerland were well below those elsewhere in Europe and were expected to decline further as the Swiss authorities pursued their accommodative monetary policy, funds flowed increasingly back out of francs into marks. In addition, a move into deficit in the trade accounts during the summer led some market participants to question whether Switzerland would continue to show the unusually strong trade performance of recent months. As a result, the franc gradually dropped back against the mark throughout the fall, declining by some 4 percent between end-July and late November. Against the dollar, however, the franc was pulled up by the rise in the mark to trade around \$0.4100 through late November, with the National Bank intervening frequently to moderate daily movements in the rate.

By late 1976, the Swiss economy was still failing to show any signs of expansion. The continued softness in domestic demand was reflected in a further reduction in inflation to just 1 percent at an annual rate, its lowest since the mid-1960's. The current account remained in large surplus, totaling some \$3.5 billion for the year as a whole. In the absence of any upward pressures on domestic prices and with growth of the monetary base lagging, the Swiss authorities stepped up their efforts to provide liquidity to the banking system. While continuing to accommodate the banks' temporary needs with large amounts of dollar swaps, the National Bank announced that they were prepared to inject substantial Swiss francs on a permanent basis through dollar purchases in the exchange markets. Over November-December, these outright purchases amounted to nearly \$2 billion, well in excess of the dollar sales under the capital export conversion program. As a result, the Swiss franc continued to drop back further against the German mark and other European currencies while trading narrowly against the dollar. Then in January 1977, with economic stagnation in Switzerland contrasting sharply with the improved outlook emerging in the United States, the franc eased back in the generalized decline of European currencies against the dollar to end the period at \$0.3990. At this level, from the record highs



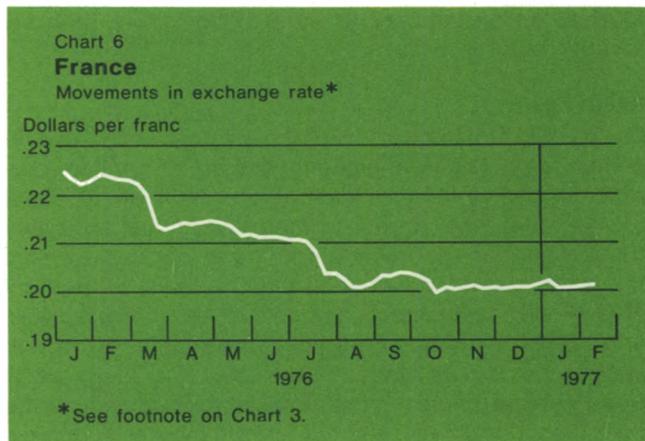
of June 1976, the franc had declined by a net 5 percent against the dollar and fully 11¾ percent against the mark.

In October, the Federal Reserve and the United States Treasury reached agreement with the Swiss National Bank on an orderly procedure to repay over three years the Swiss franc indebtedness remaining from August 1971. This included \$1,147.2 million equivalent of drawings under the Federal Reserve swap line, as well as the \$1,599.3 million equivalent of United States Treasury Swiss franc-denominated notes. In this connection, the Federal Reserve's drawings on the original swap agreement with the National Bank were repaid on October 29, using Swiss francs drawn under a newly established special swap facility which, in turn, will be reduced as the swap is repaid over the three-year period. The System then began to liquidate its obligations in accordance with the new arrangement, primarily using francs purchased directly from the Swiss National Bank against dollars and other foreign currencies. By the end of the period, the Federal Reserve repaid \$154.6 million equivalent, leaving \$992.5 million outstanding as of January 31, 1977. During this same period, the United States Treasury purchased sufficient francs directly from the Swiss National Bank to repay \$86.1 million equivalent of franc-denominated securities, leaving \$1,513.1 million equivalent outstanding as of January 31.

French franc

Last year, the French authorities faced particularly difficult policy choices. Although domestic demand had recovered briskly from the recession of 1974-75, this pickup led to a greater rise in imports than in exports and a sharp widening of the current account deficit. At the same time, domestic inflation continued to hover at a rate of nearly 10 percent per annum, almost double that of countries such as Germany and the United States. Early in the year, the franc came under heavy selling pressure within the EC arrangement on the expectation that sooner or later it would have to be adjusted downward within the EC snake or otherwise depreciated against the currencies of countries that had lower rates of inflation. In mid-March, when the governments participating in the arrangement failed to agree on a realignment of parities, the French authorities decided to allow the franc to float independently. Although the franc rate initially dropped by some 5¼ percent, it subsequently settled at about 2 percent below its previous EC parity and traded around \$0.2125 against the dollar through early summer.

During the summer, however, France was hit by a severe drought, which threatened to push up food prices, cut agricultural exports, and increase oil im-



ports to compensate for lost hydroelectric power. By that time also, the domestic economic expansion had slowed and, with rates of unemployment and inflation remaining uncomfortably high, the debate over economic policy choices in France had heated up considerably. Consequently, market concern over the outlook for the franc resurfaced, and in late July and early August the franc came under renewed selling pressure. Although the authorities countered by sharply raising interest rates, the franc slipped back to a 2½-year low of \$0.1986 by August 13, while easing a further 8 percent against the EC snake currencies. The spot rate then steadied after the government indicated it was working on a new economic stabilization program. Following a cabinet reshuffle in late August, the new Prime Minister, Raymond Barre, stressed his intention to give priority to curbing inflation and defending the franc. Consequently, trading quieted down and the rate rose to around \$0.2030 through mid-September as the market awaited the new program.

On September 22, Premier Barre announced a wide-ranging set of measures designed to balance the budget, to reduce the French inflation rate, and to restore equilibrium to the balance of payments. These measures included increases in income taxes to offset proposed reductions in value-added taxes and to finance aid to drought-stricken farmers. Moreover, to curb cost inflation, the government imposed a three-month price freeze on most goods other than oil and called upon trade unions to keep 1977 wage increases within the anticipated rise of retail prices. At the same time the monetary authorities lowered ceilings and reactivated reserve requirements on bank lending in order to achieve a 12.5 percent monetary growth target during the next year. Finally, to discourage further adverse shifts in commercial leads and lags while

these longer term measures were taking hold, the Bank of France hiked its discount rate a further 1 percentage point to 10½ percent and imposed a modest tightening in foreign exchange controls.

The market's initial response was cautious, in part because of the potentially controversial nature of the tax increase and the call for wage restraint, and the franc was marked down somewhat. Over subsequent weeks, as strains emerged within France's ruling coalition of parties, the market atmosphere became more uncertain. In addition, talk of another large OPEC oil price increase in December raised concern that such a move would undercut France's domestic anti-inflationary effort and widen the trade deficit further. As a result, the franc came on offer during the late fall and early winter, with selling particularly strong at times of tension within the EC snake or pressures on sterling. The franc held generally above \$0.2000 *vis-à-vis* the dollar but declined, in parallel with the dollar, a further 6 percent from mid-August against the mark and other EC snake currencies. To avert a steeper decline, the Bank of France kept a tight rein on domestic monetary conditions, thereby encouraging inflows of interest-sensitive funds by both nonresidents and French companies.

Late in the year, signs began to appear of an improvement in the French economic outlook. The trade deficit narrowed significantly in response to a sharp decline in French imports. The OPEC oil price increase was not so large as feared. Moreover, the domestic price freeze clearly was containing the rise in price indexes. Although market sentiment toward the franc remained cautious, the closing-out of positions taken earlier in the year and a reversal of previously adverse commercial leads and lags contributed to a 1 percent rise in the franc rate before the year-end.

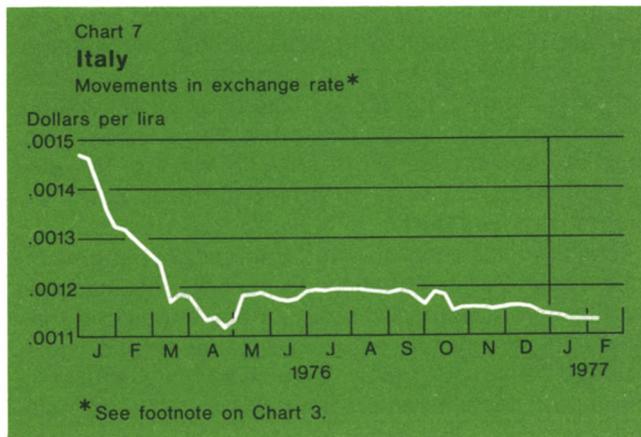
In early 1977, the market atmosphere improved even further. Several of the strikes which had been threatened in response to the anti-inflationary measures failed to materialize. The release of retail price figures showing a slowdown in the inflation rate in December for the third consecutive month confirmed to the market that the government's price and wage restraints, resting heavily on voluntary compliance, were proving more effective than many traders had expected. Moreover, although interest rates in France eased somewhat, they did not decline as much as in other financial centers and the Bank of France did not join several other European central banks in lowering its official lending rate. Thus, the franc remained relatively firm throughout January, holding at \$0.2012 against the dollar by the month end while recovering some 2-3 percent against the German mark and other Continental currencies. The Bank of France was therefore

able to add to reserves, with the result that official exchange holdings rose a net \$264 million during the August 1976-January 1977 period.

Italian lira

The Italian lira was under severe pressure from the beginning of 1976, dropping as much as 26 percent through early spring in response to deep-rooted economic and political strains in Italy. Recovery of the domestic economy, though still tentative, stimulated a rapid rebuilding of inventories which, together with the rise in raw materials prices, swelled Italy's import bill and turned the trade account into deep deficit. In the political impasse which developed, moreover, fiscal policy remained expansionary, threatening to blunt the effectiveness of the restrictive monetary measures adopted during the spring to support the lira. To halt the slide of the rate in early May, the authorities therefore resorted to a set of tough foreign exchange restrictions. The most important was a temporary 50 percent deposit requirement on the lira countervalue of virtually all foreign-currency purchases by Italian residents, which mopped up some \$5 billion equivalent of domestic liquidity over the next three months and stimulated sizable capital inflows. Meanwhile, as efforts to reach a political compromise to deal with Italy's economic and social problems evaporated, new elections were set for late June.

The outcome of those elections, a narrow but clear-cut plurality for the Christian Democratic Party over the Communist Party, gave an immediate boost to market sentiment. Delicate political compromises had to be struck, however, and several weeks passed before a minority government under Prime Minister Andreotti was formed and confirmed by the Parliament. Meanwhile, until broader policy measures could be taken, the authorities maintained a squeeze on



domestic liquidity by extending the import deposit requirement for a further three months. This squeeze continued to draw funds in from abroad which, coupled with seasonally high tourist receipts and reversals of pre-election outflows, kept the lira firm around \$0.001197 (Lit 835). The Bank of Italy took advantage of the lira's buoyancy to absorb large amounts of dollars in the market. Using these acquisitions, that bank not only repaid external indebtedness—including in late July the full \$500 million drawn under the swap line with the Federal Reserve earlier in the year—but was able to add substantially to reserves. Although the pace of reflows began to slow late in August, the Bank of Italy was still able to repay \$500 million of its \$2 billion gold collateral loan with the Bundesbank, while extending the arrangement itself for another two years.

By mid-September, the Andreotti government had begun to negotiate the components of a stabilization program with various political factions. By that time, however, Italy's inflation rate was accelerating again, partly reflecting a surge in import costs. In response, the trade unions maintained their resistance to the government's efforts to slow wage increases by modifying or eliminating the cost-of-living indexation system. Meanwhile, the scheduled expiration of the import deposit requirement in November was approaching. The market was concerned that, as these deposits ran off, new liquidity would be injected into the money market at a time when the Italian Treasury was still borrowing heavily from the Bank of Italy to finance the public sector deficit. Also, with the tourist season over, many market participants were again expecting a deterioration of Italy's current account.

In this uncertain atmosphere, a gradual buildup of commercial selling by Italian oil companies and other firms pushed the lira progressively lower in late September. In response, the Bank of Italy supported the lira in the market and the government arranged to phase out the import deposit requirement gradually over six months beginning in November. In addition, the authorities imposed a ½ percent levy on commercial bank deposits to reduce liquidity by Lit 550 billion. Nevertheless, as speculative pressure in other European markets broadened to envelop the lira, the spot rate fell off to as low as \$0.001146 (Lit 873), down 4¼ percent from late July.

To check this pressure on the lira while the government completed negotiating its package of economic stabilization measures, the authorities imposed a temporary 10 percent tax, effective October 1-15, on most resident foreign currency purchases to supplement the import deposit requirement still in force. In addition, they hiked the discount rate a full 3 percentage

points to 15 percent and raised cash financing requirements on exports invoiced in foreign currencies from 30 percent to 50 percent. In response, the spot rate was immediately marked up by as much as 4 percent to trade at \$0.001190 (Lit 840).

On October 13 the government announced its proposals for increased taxes and sizable public spending cuts for 1977. In addition, regulated prices for gasoline and for many public services were increased, while cost-of-living-linked wage increases for certain high income groups were ordered to be invested in government securities. The market response was hesitant, however, as the limited change in wage indexation was interpreted as underscoring the government's difficulty in resolving this highly charged political issue. Thus, sentiment toward the lira remained bearish, and the authorities again found it necessary to tighten exchange controls in an effort to avoid an outburst of speculative selling when the special foreign exchange tax terminated on October 15. Ceilings on Italian banks' spot and forward positions were cut. Moreover, in a sweeping restriction, the authorities prohibited until further notice nearly all nonresident drawings on existing credit lines with Italian commercial banks. In addition, in order to bring credit growth back within the limits agreed with the EC, a ceiling on the growth of loans was reintroduced on October 15. Even after these measures were imposed, however, the removal of the foreign currency tax released a flood of pent-up foreign currency demand that drove the lira back down to \$0.001147 (Lit 872). To cushion the decline in the rate, the Bank of Italy again had to intervene heavily. Consequently, in a matter of days the authorities reimposed the tax on foreign exchange transactions—this time at 7 percent for four months beginning in October—to bridge the period until the new economic measures could start to improve the balance of payments.

As a result of all the restrictions then in force, the lira again came into demand. To avoid incurring the deposit and tax requirements on spot purchases of foreign exchange, Italian importers sought additional short-term trade credits abroad. At the same time, high domestic interest rates forced Italian commercial banks and other market participants to shift an increasing amount of their borrowing into the Euro-dollar market. Moreover, the risk of severe penalties on breaching nonresident credit limits prompted foreign banks to build up working balances in lire. In addition, the lira also benefited from a return flow of funds placed illegally abroad earlier in the year after the authorities extended their amnesty program to encourage further repatriations. On the strength of these various inflows of funds, the lira remained in demand through mid-

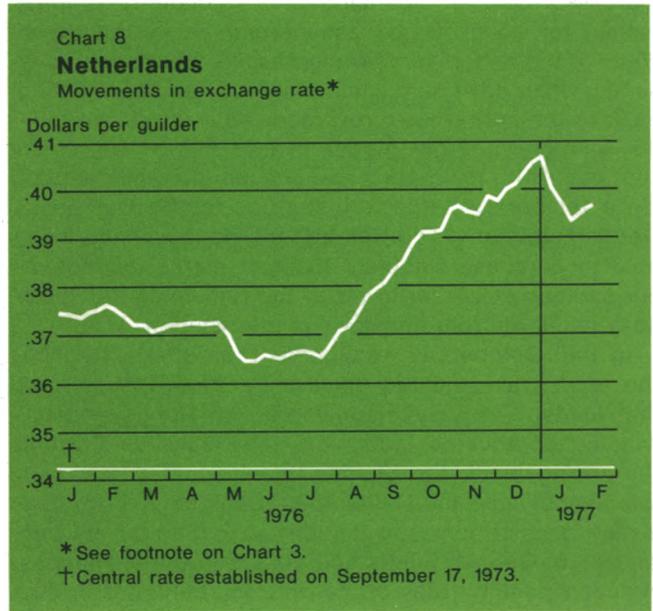
December, fluctuating narrowly around \$0.001156 (Lit 865). The Bank of Italy took the opportunity to buy sizable amounts of dollars virtually every day, thereby rebuilding official reserves by some \$1.4 billion during October and November. Early in December, the Bank of Italy repaid the \$486 million portion of the EC credit provided by Britain, while borrowing an additional \$236 million on its gold collateral loans with the Bundesbank.

By late in the year, the Italian balance of payments was beginning to show signs of improvement as some of the restrictive measures adopted in October began to take effect. With the public sector deficit under more effective control, the government forecast a reduction in the Treasury's borrowing requirement for 1977. In addition, the authorities took the opportunity to reduce compulsory commercial bank investments in public sector securities, while at the same time the central bank was able for the first time since 1975 to sell Treasury bills in the open market to absorb commercial bank free reserves.

In this improved atmosphere, the government was in the position late in December to announce its decision to cut the currency tax in half, effective December 27, and to reduce the remaining levy in successive ½ percentage point cuts, phasing it out entirely by February 21, 1977. Initially, the lira was marked down, as Italian firms—especially oil companies—came into the market to satisfy postponed foreign currency needs. By December 28 the lira had slipped over 1 percent to \$0.001143 (Lit 875) even as the Bank of Italy intervened to moderate the decline. With market participants still delaying their foreign currency purchases in anticipation of further relaxation of the restrictions, however, the lira steadied after that burst of selling pressure had passed. In January, the continuing domestic money squeeze stimulated further inflows from the Euro-currency market, which offset much of the demand for currencies that emerged as both the foreign currency tax and the import deposit requirement were progressively reduced. Thus, the lira eased only a further ¾ percent to \$0.001134 (Lit 882) by the month end, a net decline of 5¼ percent for the six months since July 1976.

Netherlands guilder

During 1976 the Dutch guilder was caught up in wide swings in market sentiment. In the speculative atmosphere that emerged in European currency markets early in the year, the guilder was bid up on the expectation that it would be revalued along with the German mark. Following a showdown over EC parities in March, however, the guilder came suddenly on offer when the market learned that the Dutch authorities



were unwilling to revalue. Subsequently, the market grew increasingly bearish toward the guilder. To be sure, the economy was moving gradually into recovery and the current account continued in substantial surplus. But the rise in domestic prices was still more rapid than in Germany, and the market questioned the prospects for any reduction of inflationary pressures. Thus, the guilder fell to near the bottom of the snake, where the central bank intervened heavily by selling dollars until a tightening of conditions in the Amsterdam money market helped bring the guilder market into better balance in early summer. Meanwhile, the guilder had joined in the general decline against the dollar to trade around \$0.3675 by end-July.

In early August, when speculation reemerged over a possible parity realignment within the EC snake, funds were shifted into marks and the guilder came under attack once again, dropping to the bottom of the EC band where heavy intervention by the Netherlands Bank was required. To demonstrate a determination to maintain the guilder within the EC snake at prevailing rates, the authorities brought about an intense squeeze in the money market by successively raising the discount rate to 7 percent by August 20 and by imposing increasingly stiff penalties on commercial banks' borrowings in excess of their quotas at the central bank. By late August, the combined effect of the heavy central bank intervention, the penal interest rates, and resident demand for balances to meet tax payments had sent overnight money rates in Amsterdam soaring to unprecedented levels. Dealers, faced with a sharply

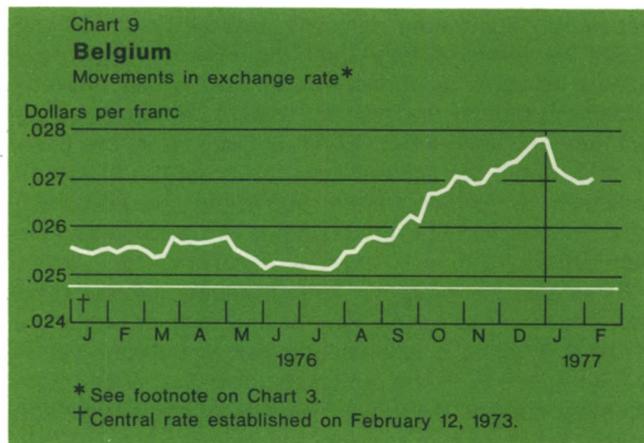
increased cost of financing short guilder positions, rushed for cover. Dutch commercial banks liquidated some of their short-term foreign assets to meet liquidity needs, while adverse commercial leads and lags dating back to the spring were reversed. As a result, the guilder snapped sharply higher in late August and then kept pace with the mark's rise against the dollar except for a temporary setback just prior to the October 3 German elections. The Netherlands Bank was therefore able to purchase sufficient German marks in September and early October to repay the remaining indebtedness resulting from its previous intervention.

In the October 17 realignment of snake parities, the mark was adjusted upward by 2 percent against the guilder. As a substantial reflux of funds and unwinding of adverse leads and lags developed within the arrangement, the guilder remained in demand. In this atmosphere, the Netherlands Bank moved progressively to ease domestic liquidity. It continued its purchases of German marks and dollars in the exchanges, reduced penalty rates on commercial bank borrowings from the central bank, entered into swaps against dollars before the year-end, and lowered the official discount rate in two steps to 5 percent by January 7. In December the Dutch capital market, closed since the previous May, was reopened for selected foreign issues.

These various measures helped to keep the guilder just below the upper limit of the snake, where it followed the rising trend of the mark through the fall and early winter. By early January, the spot guilder reached an eighteen-month high of \$0.4102. Thereafter, as United States interest rates firmed and sentiment toward the dollar improved, the guilder settled back to \$0.3965 at the month end, for a net rise of 7 percent since end-July 1976. In the meantime, the sizable central bank purchases of marks and dollars since August 1976 had contributed to a substantial increase in official exchange reserves so that in the year from January 1976 external holdings declined only marginally on balance.

Belgian franc

During the various episodes of exchange market turbulence in early 1976, the Belgian franc was vulnerable to selling pressures, partly on market concern over Belgium's relatively high rate of inflation. Whenever tensions flared up in the exchanges, the Belgian authorities vigorously defended the franc by raising short-term interest rates and squeezing domestic liquidity. At the same time, even though the economic recovery was slower than in most other countries, they took other anti-inflationary measures. The market expected only slow progress toward price stability, however, in view of Belgium's system of indexing wage



increases to the rise in prices, and this concern became even stronger when the serious drought last summer threatened to push domestic food prices up sharply. Under these circumstances, when strains on the EC band resurfaced in late July and early August, adverse shifts in leads and lags put renewed pressure on the Belgian franc at the snake's lower limit. Therefore, the National Bank of Belgium was obliged to intervene in large amounts, along with the other participating central banks. But the generalized flow into marks was great enough to pull the franc up against the dollar to \$0.025750 by mid-August.

Meanwhile, the Belgian authorities publicly reaffirmed their commitment to defend the franc's existing EC parity, expressing the view that a devaluation of the franc within the snake would have serious inflationary consequences while complicating the tasks of promoting economic recovery and reducing unemployment. Moreover, the authorities reimposed a severe credit squeeze, hiking the official discount rate in two steps to 9 percent, raising interest rates on other official advances and short-term Treasury certificates even more, and cutting back on commercial bank credit limits with the central bank.

As Belgian liquidity tightened early in September, dealers began to cover some of their now expensive short positions and pressure against the Belgian franc subsided. After mid-September the commercial franc moved away from the snake's floor and, apart from a brief speculative outburst before the German elections, the franc required only limited additional support against the mark through mid-October. In fact, on a few days, the franc firmed sufficiently within the joint float to enable the National Bank to buy small amounts of marks in the market to begin repaying the mark debt it had accumulated from earlier interventions.

Nevertheless, disparities in economic performance

between Belgium and Germany continued to raise expectations of an eventual realignment between the currencies of the two countries. Thus, the market's initial reaction to the announcement on October 17 that the Belgian franc's snake parity—like the guilder's—would not be independently lowered in the realignment of the snake was one of disappointment, and the franc was marked down sharply the next day at the opening in Europe. But almost immediately thereafter the franc began moving back up against the dollar and within the snake.

Then, as short positions and adverse commercial leads and lags built up since mid-July were progressively reversed, the franc joined the other EC currencies in a steady advance against the dollar which continued through the year-end. By early January 1977 the franc rate had firmed to \$0.028000, 9½ percent above midsummer levels. During this period the National Bank occasionally purchased dollars to moderate the rise. At the same time, with the franc holding firm within the EC snake, the National Bank bought sizable amounts of German marks in the market, initially to repay the remaining mark debt and later to build up dollar reserves by converting mark purchases at the Bundesbank. As a result, Belgian reserves increased from end-October to end-December by about \$700 million, enough to offset losses during the preceding three months. Meanwhile, the substantial injections of Belgian franc liquidity arising from the central bank's purchases of dollars and marks helped to ease strains in the Belgian money market, and the authorities followed up by lowering official lending rates on various advances and loans in line with the easing in market rates of interest.

By January, official figures showed that Belgium's current account had moved roughly into balance and that Belgium's inflation rate was moderating once again. Domestic economic activity remained slack, however, and the unemployment rate seasonally adjusted had risen to nearly 6.2 percent of the labor force. Under these circumstances and with the franc remaining steady within the EC snake, the Belgian authorities followed other European central banks in cutting domestic interest rates further. The National Bank reduced its discount rate for the first time since August to 8 percent, lowered a variety of other official lending rates by as much as 2 percentage points, and raised commercial banks' rediscount quotas to increase the availability of credit. During the remainder of January, the commercial franc eased back along with the mark against the dollar to \$0.027040 by the month end, a net rise of 6 percent in the six months from end-July 1976.

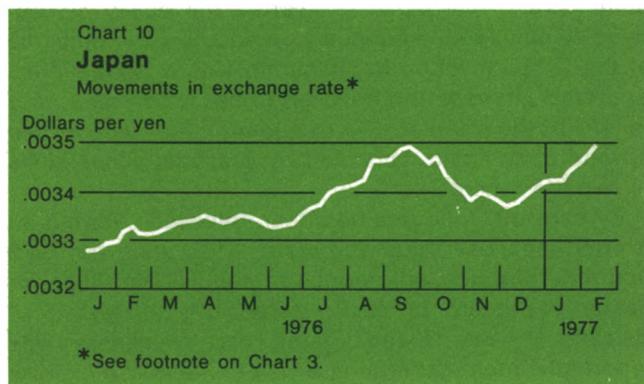
During the period under review, the Federal Reserve

completed its program of regular purchases of Belgian francs to repay swap debt outstanding since August 1971, acquiring sufficient francs from correspondents and in the spot and forward market to liquidate the remaining \$82.4 million of drawings by November 12.

Japanese yen

Following the economic dislocations of previous years—inflation, payments deficit, and recession—the Japanese authorities were seeking to revive the domestic economy through fiscal stimulus and accommodative monetary policy without rekindling domestic inflation. When early in the year, however, the United States and other industrial countries experienced a sharp expansion of demand, particularly in rebuilding inventories, Japanese exports surged without an immediate rise in imports and Japan's trade and current accounts moved into substantial surplus. This generated more positive expectations toward the yen which, combined with favorable interest arbitrage incentives, led to substantial capital inflows to Japan. Consequently, in the early months of 1976 the yen rebounded by some 2 percent from its lows of late 1975. Although the market came into better balance over the late spring, the possible persistence of a large trade surplus for Japan became a matter of official concern abroad and was one of the subjects discussed at the economic summit meeting among major nations in Puerto Rico in late June. Moreover, the Japanese press carried reports that, in the economic policy debate emerging in Japan, some leaders expressed a readiness to accept a gradual rise in the yen to contain domestic inflation.

As the market reacted to reports of these policy discussions, the yen came into heavy demand from late June through August. Foreign importers of Japanese goods advanced their yen purchases in the spot and forward markets to cover future needs, nonresident investors shifted funds into Japanese securities, and



market professionals both in Tokyo and abroad shifted into long or longer yen positions. The spot rate reached a high of \$0.003504 (¥285.4) by September 9, some 5¼ percent above midyear levels. To maintain an orderly market, the Bank of Japan bought moderate amounts of dollars in August-September before the yen eased back somewhat late in September.

In early October, however, the balance of market sentiment shifted back against the yen. Talk of a sizable OPEC oil price rise in December had become a major concern in view of Japan's dependence on oil imports for the bulk of its energy needs. With the approach of the national election in Japan in early December, political uncertainties also weighed on market psychology toward the yen. Moreover, the economic pause in the United States and Europe during the summer had been reflected in a deceleration of Japanese export growth which, coupled with a delayed rise in imports to rebuild stocks run down earlier in the year, had led to a narrowing of the trade and current account surplus. Since the Japanese economy was also sluggish, the market came to expect that interest rates in Japan might eventually decline, and market rates softened somewhat even as the Bank of Japan kept its discount rate unchanged.

In this atmosphere, the yen came increasingly on offer in the exchange market during October and November, as professional traders shifted out of yen and into dollars while previously favorable leads and lags were unwound. Selling pressures increased on the days before and after the December 5 election, in which the ruling Liberal Democratic Party almost lost its absolute majority in the lower house of the Diet. By December the yen rate slipped to as low as \$0.003359 (¥297.7), some 4¼ percent below its September high, with the Bank of Japan by then intervening forcefully to maintain orderly market conditions.

Over the next few days, however, the market atmosphere improved markedly. The smooth transition of authority to a new government under Prime Minister Fukuda had a reassuring effect, particularly as the new administration in Japan reasserted the policy of cautious stimulus to the economy. In addition, the outcome of the OPEC meeting in midmonth with a smaller than expected increase in OPEC oil prices also came as a relief to the market. Consequently, the yen turned upward once again, bolstered by seasonal conversions of exports receipts.

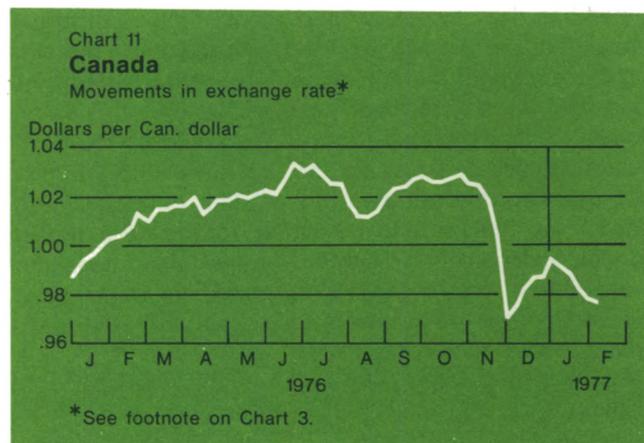
By early 1977, figures had been released showing an overall Japanese trade surplus of \$10 billion for 1976 and a current account surplus of about \$3½ billion, or nearly 1 percent of GNP. Moreover, the revival of demand in the United States and elsewhere was reportedly again generating a rise in Japanese exports

which outpaced import growth. Amid renewed expression of concern over the size of Japan's trade and current account surplus, funds again began to flow heavily into Japan. The yen thus continued to advance through most of January, reaching a high at the month end of \$0.003469 (¥288.3), some 3¼ percent above the early-December low, with only modest intervention by the Bank of Japan.

Canadian dollar

By midsummer 1976, the Canadian authorities had made significant progress in reducing inflation from the levels of 1974-75, partly as a result of a broad anti-inflationary program which included price and wage restraints as well as a restrictive monetary policy. At the same time, however, the pace of expansion of the domestic economy was sluggish, unemployment was still high, and Canada's current account remained in sizable deficit. During the first half of 1976, this deficit had been more than offset by Canadian borrowings abroad, amounting to some \$4.5 billion. Thus, while the market remained hesitant about the longer term prospects, the conversions of these borrowings had pushed the Canadian dollar rate up strongly in the exchanges. The broader interest in the Canadian dollar that these borrowings had generated, together with the impressive rise in the rate, had attracted sizable professional position-taking that left the currency more exposed to volatile swings in market sentiment. When the pace of new borrowings and conversions slowed during midsummer, the Canadian dollar dropped about 3 percent from its June highs to below \$1.01 early in August.

In August and September, however, several new foreign borrowings were announced that generated a reversal of professional positions and reportedly attracted renewed flows of OPEC funds into Canadian



dollars. Buoyed also at times by seasonally strong commercial demand, the Canadian dollar advanced again to above \$1.03 by late October. The Bank of Canada continued to intervene on both sides of the market to maintain orderly trading conditions, with the net result that by end-October Canada's official reserves were almost back up to end-June levels.

Meanwhile, some long-standing concerns over prospects for the Canadian economy began to weigh on market sentiment. Opposition was building up, within both the labor unions and the business community, to an extension of the government's year-old wage-price control program. Also, the latest economic statistics indicated a further slippage in the already disappointing pace of recovery, raising the possibility of higher unemployment especially in Quebec and the maritime provinces. At the same time, the growth of monetary aggregates was slipping below the Bank of Canada's target range. Under these circumstances, the market became wary of significant declines in Canadian interest rates relative to those in the United States.

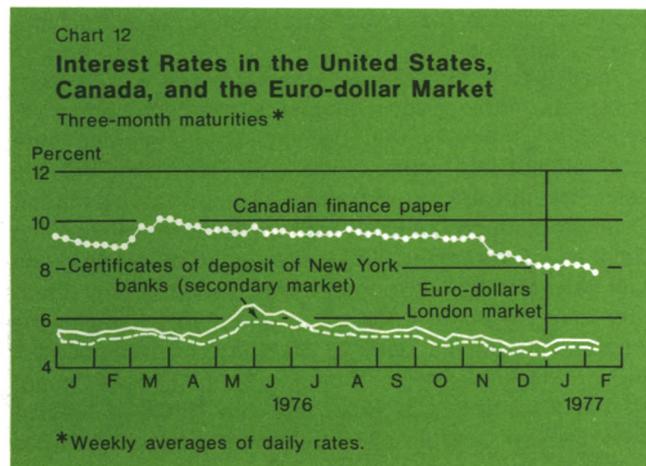
Thus, sentiment toward the Canadian dollar was already turning more hesitant when reports spread that the Separatist Party of Quebec might make severe inroads in the Liberal Party's majority in the upcoming November 15 elections for the Quebec provincial legislature. In response, the Canadian dollar came on offer and the spot rate began to soften even before the elections. Nevertheless, market participants were caught by surprise when the Separatist Party won by a sizable majority. In reaction, the Canadian dollar was marked down sharply in London the day after the election, before temporarily recovering somewhat in the New York and Canadian markets.

Over subsequent days, as the market tried to assess the broader political and economic implications of the

election results in Quebec, the selling pressure gathered force. Professional dealers in both Europe and North America scrambled to cut back their Canadian dollar positions or to take up short positions. As the rate fell, commercial demand for Canadian dollars virtually dried up, United States corporations brought forward their normal year-end conversions of earnings by Canadian subsidiaries, and Canadian borrowers postponed their conversions of new foreign issues. Meanwhile, interest rates in Canada also began to ease. On November 19, after a ¼ percentage point cut in Federal Reserve discount rates, the Bank of Canada announced a reduction in its lending rate of ½ percentage point to 9 percent. With the Canadian dollar increasingly on offer, the spot rate tumbled through the \$1.00 level over our Thanksgiving Day holiday and, in record turnover, continued to slide over the next few days. By Tuesday, November 30, it had reached \$0.9587 in London, the lowest level since June 1970. The Bank of Canada provided substantial resistance to the sharp fall in the rate, and Canadian official reserves fell \$759 million in November.

The Canadian dollar began a tentative recovery in early December, when some participants began to feel that the selling had been overdone. Reports of new foreign borrowings scheduled for early 1977 tended to provide some reassurance that, even after the Quebec election, Canadian borrowers could continue to tap the international credit markets. As the atmosphere improved, there were renewed borrowing conversions in the market, and some short positions were covered. In addition, reports circulated that the proceeds of Canadian wheat sales to China were being converted. Thus, even after the Bank of Canada cut its discount rate another ½ percentage point on December 21, the exchange rate was marked down only briefly, and by January 5 it had recovered to \$0.9984, over 4 percent above its November 30 low. The Bank of Canada intervened about as heavily to moderate the rise as it had to cushion the decline, adding \$764 million to official reserves during December.

Nevertheless, the market remained cautious toward the Canadian dollar and the rate generally fluctuated lower during the rest of January. By this time, market participants held firm expectations of a further easing of short-term interest rates in Canada, while in contrast United States money market rates were tending to rise. Uncertainties over the timing of future borrowing conversions dampened professional bidding for Canadian dollars. In addition, the market reacted adversely to Quebec Premier Levesque's speech to businessmen in New York, in which he reaffirmed his party's objective of an independent French-speaking Quebec. By end-January, therefore, the Canadian dollar rate had



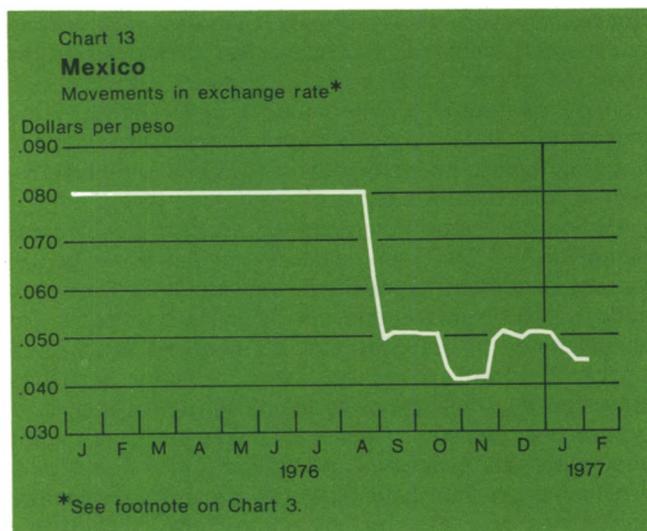
slipped back to \$0.9825, for a net decline of 4¼ percent over the six-month period. During that time, Canadian official reserves declined by \$115 million on balance.

Mexican peso

For nearly two decades, Mexico's impressive economic growth largely reflected the authorities' efforts to mobilize domestic savings and attract funds from abroad to finance the development effort. Externally, this approach resulted in a current account deficit which was normally offset by sufficient capital inflows to achieve at least overall balance and, in most years, to allow for some accumulation of international reserves. Throughout this period, the Mexican authorities successfully maintained a fixed rate of \$0.08 to the peso, meeting with only occasional bouts of selling pressure. This stability nevertheless rested on a delicate balance of economic forces. Beginning in the early 1970's, ambitious social and economic programs at home led to growing fiscal deficits which eventually generated rates of inflation well above those in the United States and other major countries. At the same time, Mexico was caught up in the backwash of worldwide inflation, particularly after the oil price rise of 1973-74, and the subsequent recession in the United States and other industrial countries. The Mexican authorities managed to avoid an economic downturn in 1974-75, but at the expense of a sharp widening in the current account deficit that required even greater foreign borrowings than before. By early 1976, the authorities had recognized the need for restoring internal and external balance and had made a start toward that objective. Nevertheless, market participants remained cautious in view of the large economic imbalances which remained, the increasing wage demands of Mexican trade unions, and election-year uncertainties in Mexico.

Against this background, the Mexican peso came under heavy selling pressure on several occasions in early 1976. By April, rumors of a forthcoming devaluation of the peso had led to outflows of resident funds as well as to hedging by nonresidents of peso claims and receivables. To help finance its intervention at that time, the Bank of Mexico drew the full \$360 million available under the swap arrangement with the Federal Reserve. Some reflows subsequently developed but not in sufficient volume for the Bank of Mexico to liquidate the swap drawing quickly, as it had with earlier drawings in 1974 and 1975.

The market remained edgy throughout the spring and early summer. After former Finance Minister López Portillo was voted to succeed President Echeverría in the July 4 election, many market participants ex-



pressed concern over the possible need for a change in the exchange rate either before or after the December 1 inauguration. Although Mexico's imports had steadied, the growth of exports was falling well below expectations, halting progress in reducing the current account deficit. Yet, the authorities were unable to step up the pace of foreign borrowings to offset fully both the widening current account deficit and the continuing hot money outflows. The Bank of Mexico continued to support the peso at the \$0.08 level, but at a heavy loss of international reserves.

On August 31 the Mexican authorities announced that, as part of an overall strategy of economic adjustment, the peso would be allowed to float, with the Bank of Mexico intervening only to prevent "erratic and speculative fluctuations" in the spot rate. Other measures included steps to cut the public sector deficit, price controls on raw materials, and taxes on exceptional profits that exporters might receive from the peso's depreciation.

Immediately after these announcements, the spot peso was marked down almost 39 percent before recovering slightly in thin trading. To help steady the rate, official intervention was soon resumed and the peso traded around \$0.0505 through late October. Meanwhile, in conjunction with these new policies, the Mexican government had entered into negotiations with the IMF. In that context, the United States Treasury and the Federal Reserve agreed to a special arrangement with the Bank of Mexico on September 20, making available to that bank up to \$600 million of interim financing. On that basis, the Bank of Mexico drew early in October \$365 million on the United States Treasury, an amount that was fully repaid when Mexico

made its first drawing on \$963 million in credits the IMF made available beginning in November. In October the Bank of Mexico also repaid the \$360 million of swap drawings on the Federal Reserve outstanding for six months.

In the exchanges, however, the attitude toward the Mexican peso remained bearish. Although wage increases were substantially below levels originally demanded by the labor unions, domestic prices had nevertheless risen sharply following the floating of the peso. Moreover, the market had come to expect that implementation of new measures in connection with Mexico's eligibility for drawing on the Fund would have to await the installation of a new administration on December 1. In this atmosphere, a variety of rumors, of capital controls or freezes on resident bank accounts, began to appear in the market, triggering renewed movements of funds out of Mexico in early autumn. Later on, in mid-November, reports of seizures of privately held land in northern Mexico generated further uncertainty. In response, capital outflows intensified and Mexican residents rushed to convert more pesos into United States dollars, including dollar currency notes.

In an effort to maintain an orderly market for the peso, the Bank of Mexico at first stepped up its official dollar sales. But, after sustaining a further loss of reserves, the authorities permitted the peso to sink a further 25 percent to \$0.0380 on October 27, before resuming support for the rate. Among other credits to augment reserves, the authorities drew in November \$150 million on the swap line with the Federal Reserve and a total of \$300 million under the Exchange Stabilization Agreement with the United States Treasury. Later that month, in the face of massive selling pressure on the peso and the likelihood of even more capital outflows before December 1, the authorities announced over the November 20-21 weekend that

they were withdrawing temporarily from the market. To deter additional speculative selling of pesos, commercial banks and other credit institutions were prohibited from trading for their own accounts, except to cover existing commitments. Instead, stockbrokers were authorized to act as foreign exchange dealers for the purpose of executing essential transactions. Following these measures, the immediate selling of pesos stopped and a technical shortage of peso balances quickly developed in both Mexico and abroad. Thus, the peso bottomed out at \$0.0345 on November 22—fully 57 percent below the prefloat level—and rose to as high as \$0.0526 by December 1.

That day, in his inaugural address, President López Portillo called for national unity, austerity measures, and a productivity improvement program to strengthen the Mexican economy. The speech was well received in Mexico and abroad, and over the following days a substantial reflux of funds into pesos developed. Thereafter, the new administration began implementation of the policy measures embodied in the agreement with the IMF and gained agreement for more modest than expected wage increases in the January round of wage talks. Moreover, on December 20, the authorities lifted the prohibition against commercial bank trading for their own account. Even as more normal trading resumed, the peso held firm at around the \$0.05 level through the year-end and into early 1977. When some selling pressure emerged briefly after mid-January, the rate dropped to as low as \$0.0444 before firming in good two-way trading. By the month end, the peso was trading at \$0.0463, some 42 percent below the prefloat level. Meanwhile, the Bank of Mexico's reserve position had improved sufficiently to repay in December \$150 million of the \$300 million drawn on the United States Treasury and to schedule repayment of the \$150 million in swap drawings on the Federal Reserve at maturity in February.

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