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Statement by

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Chairman, Board of Governors of the Federal Reserve System

before the

Joint Economic Committee

February 1, 1980

*John C. ... 50A*

I am pleased to be here today to participate in these hearings on the President's Economic Report, to present to you my views on the state of the economy and to comment on what I consider to be the advisable course for economic policy. I believe there is now widespread recognition of the priority that must be given to controlling inflation. I welcome this opportunity to discuss the role of monetary policy in achieving the goal of price stability, and to explore ways in which other policies also can contribute toward this end.

Shaping economic policy is not an easy task even at the best of times. But the task has been made considerably more difficult by the dramatic changes that have been occurring recently in the economic environment, both at home and abroad. Actions by OPEC continue to place sharp upward pressures on the price of oil imported into the United States, while political disturbances in Iran and Afghanistan--among other things--have increased uncertainties about future petroleum supplies and defense spending. Here at home inflationary pressures have intensified, and these pressures have been accompanied by a heightening of inflationary expectations. While much of the acceleration in prices can be attributed to rising energy costs, our dismal performance in productivity has also contributed appreciably. In financial markets, high interest rates--themselves a by-product of rapid inflation--have induced further financial innovation and institutional changes, which in part have required changes in the way monetary policy is now conducted.

The uncertainties created by these developments are perhaps best highlighted by the almost universal failure of forecasts made at this time last year, and throughout most of the year, to predict accurately the continued expansion of economic activity in 1979. Despite the shocks from very large oil price hikes, fuel shortages, and major strikes, as well as the imposition of restraining macroeconomic policies, the economy proved to be remarkably resilient. Growth in real economic activity did slow in 1979 from the unsustainable 5 percent rate posted in the preceding year, but real GNP still advanced 1 percent over the four quarters of 1979; the much-heralded recession never appeared.

The 1979 experience underscores how limited our ability is to project future developments. It reinforces the wisdom of holding firmly to monetary and other economic policies directed toward the evident continuing problems of the economy--of which inflation ranks first--rather than reacting to possibly transitory and misleading movements in the latest statistics or relying too heavily on uncertain economic and financial forecasts. In retrospect, recharting policy to respond to tentative signs of a faltering economy last year would have proven extremely costly to our anti-inflation effort.

One of the major reasons why the forecasts for 1979 went wrong was the unanticipated behavior of consumers. Despite the virtual cessation of growth in real disposable income over the year, consumption outlays continued to advance. The desire of households to accumulate goods was, no doubt, induced in part by the expectation of worsening inflation. Indeed, surveys of consumer attitudes

showed inflationary expectations in the double-digit range virtually throughout the year. Consumers could see both their savings and income being eroded by inflation and were willing to incur more debt and to save less in order to sustain their standards of living or to buy tangible assets in anticipation of further price rises. As a result, debt burdens reached new highs in 1979 and the saving rate at the end of the year was down to its lowest level since the Korean War. One of the major uncertainties as we enter 1980 is how long consumers may be willing and able to maintain behavior without much earlier precedent.

It was encouraging that the nation's trade balance improved somewhat last year despite a dramatic increase in the value of our oil imports. Export volume--for both agricultural and nonagricultural products--increased by about 10 percent. Export markets thereby helped significantly in sustaining domestic production in 1979.

If the forecasts have proven to be wrong about a recession in 1979, they do, I believe, reflect elements of potential weakness in some key sectors and an increased overall vulnerability following five years of expansion accompanied by the distortions of inflation. One major area of weakness has already been evident--the auto sector. Auto demand was damped last year by a series of shocks--large gasoline price hikes, gas shortages, and concerns about future fuel availability. Car sales dropped sharply in the spring and car stocks backed up. Price cutting and company-sponsored incentive programs helped work off excessive inventories in the

summer. On balance, however, demand appears to have weakened, with auto sales in the fourth quarter at the lowest level since 1975. Indeed, sales have dropped to the point that much of that adjustment may be completed.

Housing sector activity also slackened substantially. The rate of private housing starts moved down early in 1979 from the 2 million unit pace that prevailed in 1978 and averaged 1-3/4 million units during the first three quarters of 1979. Late last year starts fell again, to an average of 1-1/2 million units in the final two months; permits for new construction declined even faster. The decline in residential construction last year reflected tighter conditions in mortgage markets as well as some reduction of demands owing to weaker financial positions of potential homebuyers.

In the business sector, there was a loss of momentum in capital outlays during 1979 as the fundamental determinants of spending became less favorable. Growth of final sales slowed considerably after the first quarter, the capacity utilization rate in manufacturing edged lower, nominal financing costs rose throughout the year, and business sector balance sheets came under increasing financial pressure. Reflecting these developments, advance indicators of capital spending--such as orders and contracts--showed no real growth during the year, and surveys of planned outlays for 1980 also suggest a further moderation in real capital outlays.

The slowing of economic activity during 1979 was accompanied by a less rapid increase in employment, but the moderation

in employment growth did not keep pace with the deceleration in output growth. Although real output rose by 1 percent over the year, total employment increased 2 percent. At the same time, however, growth of the labor force slowed. As a result, the overall unemployment rate remained within a narrow range of 5-3/4 to 6 percent.

Despite the moderation of output growth last year, inflation worsened and inflationary expectations became more deeply imbedded. The acceleration in overall inflation in 1979 was due in significant measure to the sharp rise in the price of imported crude oil that resulted from the series of price hikes instituted by OPEC. In addition, prices of domestic crude oil and many other energy items also rose dramatically. Inflation, however, was not confined to the energy sector as underlying cost pressures intensified throughout the economy and prices excluding energy and food rose faster than in the year earlier.

By last fall it was evident that inflationary conditions had deteriorated further and threatened not only the stability of the U.S. economy, but also our position in the world economy. In response to the measures taken in November 1978, the value of the dollar had risen, and this strength continued into the first five months of 1979. However, the failure of the U.S. inflation rate to moderate, an acceleration of money and credit, and the rapid rise in oil prices all contributed to downward pressure on the dollar in the summer. The dollar's weakness intensified in September despite

heavy intervention purchases of dollars by U.S. and foreign authorities.

### Monetary Policy in 1979

Early in 1979 growth of the monetary aggregates was effectively under control. But during the spring and summer money growth was much faster than the Federal Reserve's longer-run targets. The System took a series of actions, through its open market operations and through increases in the discount rate, designed to contain excessive growth of money and credit. But with continuing rapid growth of the aggregates and with foreign exchange developments contributing additional upward price pressure and exacerbating inflationary expectations, it became clear that firm action was needed to avoid even higher inflation. The risks were underscored by an apparent buildup of speculative pressures in commodity markets in September. The danger was that the bidding up of prices in these markets not only would in itself reinforce the inflationary trends, but that it would also lead to an unsustainable surge of buying. This was the setting in which the Federal Reserve took its October 6 policy actions to deal with inflationary pressures and defuse expectational forces. It was a setting, too, that emphasized the fundamental point that defense of the dollar internationally depends first of all on actions at home to deal with our domestic economic problems.

As I have indicated on previous occasions, the new steps did not involve any change in our basic targets for the various monetary aggregates in 1979, but they did provide added assurance

that those objectives could be achieved. Indeed, our immediate objective was to rein in money and credit growth.

Although explicit targets for monetary growth have been a central feature of monetary policy for several years, the operational guide for day-to-day open market operations before October had typically been the federal funds rate. However, the translation of money stock objectives into day-to-day management of this rate presupposes a stable and predictable relationship between the public's demand for cash balances and short-term market rates of interest. This relationship becomes particularly difficult to appraise in an environment of rapid price increases, changing inflationary expectations, and financial innovations. Consequently, the Federal Open Market Committee decided to emphasize controlling the volume of reserves available to support deposits in the banking system.\* This change in procedure was supported by two other measures--an increase in the discount rate and a marginal reserve requirement on increases in the managed liabilities of larger banks. Our purpose in this program was to signal clearly and forcibly our unwillingness to finance an accelerating rate of inflation and our desire to "wind down" inflationary pressures.

Following these actions taken nearly four months ago, there was a period of turmoil and unsettlement as the markets appraised and adjusted to the new approach to implementing monetary

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\* A technical description of the new procedures is attached to the statement.



policy. Initial reactions in some markets may have been exaggerated, but at least they reflected an appreciation of the seriousness with which we viewed the problem of containing inflation. Now the financial markets appear to be functioning in a more orderly fashion.

With regard to our immediate objectives of controlling monetary and credit developments, I can report that the overall results have been remarkably in line with our intentions. Specifically, there has been a clear and significant moderation in the growth of money and credit. Growth in M-1 over the September to December interval was well within the interim target of 4-1/2 percent or lower set by the Federal Open Market Committee in early October, and growth rates for virtually all the aggregates have subsided markedly from the excessive pace of the spring and early summer of last year.

In terms of our ultimate goals, the picture is much less clear. Fears expressed by some of a precipitous drop in economic activity have not been borne out, as the economy has continued to grow at a modest pace in spite of the tighter policies. But the economy's strength reflects in part consumer buying on credit or out of savings in anticipation of continued inflation, and this does not bode well for the long run. Other developments since October have not been encouraging. Inflation remains about where it was, and gold and commodity markets are once again highly volatile--a development certainly related in large part to international political and economic developments. These same

developments had an impact on exchange markets. The dollar retraced most of its rise after October 6, but has held steady in recent weeks.

We could not reasonably have expected to see any significant damping of inflation over such a short period of time. But, we must also recognize that clear progress on the price front has probably been set back by at least a further quarter or two as a direct result of the round of oil price changes since early December, and the international disturbances have seemed to reinforce concern about future inflation. This part of the picture is not a happy one. But, I would remind you that the lags between action and reactions are well-known, so we should be neither surprised nor disheartened by the recent data. Monetary policy--restraint on growth of money and credit--is only effective over time; but experience shows that, with perseverance, it can and will be effective. Recent events seem to me only to reinforce the need for disciplined policy, and I remain hopeful that signs of progress will emerge over the next year.

#### Looking Ahead

With this background in mind, let me now turn to a discussion of appropriate public policies over the near term. Monetary policy has a central role to play in combatting inflation. But our recent experience underscores the complexity of the inflationary process--prices respond to a host of factors, including credit growth, demand management policies, external price shocks,

productivity trends, expectations, and many others. In view of this, I believe that we must develop a coordinated set of policies designed to attack inflation from a number of directions rather than placing the entire burden on monetary policy. In theory, monetary policy could do the job alone; in practice, complementary policies are needed to smooth the path and build the base for sustained growth. Moreover, if we are to return to a noninflationary environment it must be recognized that persistent application of anti-inflation policies over an extended period is essential. I am happy to note that the Administration has emphasized these points in its discussion of policies for stability and growth.

As we develop such policies, I would note that our margins for error in some important respects are smaller today than they used to be. In particular, I would underscore the importance of avoiding errors on the side of excessive stimulus in an environment in which inflation is already deeply imbedded, a point also stressed in the President's Economic Report. When inflationary expectations are so volatile, we run the grave risk that stimulation will be dissipated to a large extent in higher prices rather than increased output. That is one price we pay for permitting inflation to make the headway it has for so long. The potential costs of acting on the basis of forecasts of slack that later prove to be incorrect are all the higher in view of potential strains or disruptions that could arise--for example, in the energy sector--that would further exacerbate inflationary pressures. In that connection, I am aware,

as I am sure you are, that decisions on defense spending will need to be taken into account in appraising the outlook.

I know the Committee does not expect me to deal in detail with our monetary objectives, pending testimony in relation to the Humphrey-Hawkins procedure. However, in terms of the broad posture of monetary policy, these considerations translate into a prescription for persistently working toward non-inflationary growth of the money supply. There are questions on how fast money growth should be cut back, and technical issues of how to implement monetary policy, but I see no satisfactory alternative to slowing the growth of money. Our policy, viewed in a long-term perspective, rests on a very simple premise--that the inflationary process is ultimately related to excessive growth in money and credit. This relationship is of course a complex one, and there are many facets of it that are sensitive to nonmonetary economic variables. But, in spite of all the nuances, it is clear that inflation cannot persist over the long run in the absence of excessive monetary growth.

In this context, let me make an important analytic point--maintenance of restraint on money and credit is consistent with movements in interest rates in response to market forces as they reflect credit demands, trends in economic activity, and, over time, inflation. Whether, when, and to what extent interest rates move higher or lower, these changes should not be misinterpreted or misconstrued as a departure from our intent to maintain disciplined growth in money and credit over time. In that connection, I would emphasize that the prospects for sustaining any declines in interest

rates that might develop in any cyclical downturn will ultimately depend on success in the fight against inflation. In that context-- but only in that context--lower interest rates would not only be appropriate in facilitating recovery, they would be evidence that the foundations were being laid for a healthier domestic economic situation and one consistent with a stronger dollar internationally.

#### Other Anti-Inflation Policies

I pointed out earlier the need for a coordination of policies in order to avoid unnecessary costs and disruptions as we work to restrain inflation. Fiscal policy potentially can play a key role. In the past, however, there has been far too much of a willingness to accept budget deficits, in good as well as bad years.

I believe it is imperative to keep the goal of budgetary balance in the forefront of our thinking about spending and revenue decisions, even though our progress may at times be interrupted by cyclical developments. It is particularly important, in my view, that tight control be exercised on total expenditures, and that we work away at the objective often stated by the President in the past that the share of government spending to total GNP be reduced. In the current international environment, that may not be feasible every year, but if and as defense priorities rise, the clear implication is that we cannot shrink away from even more intense scrutiny of nondefense spending. Moreover, budget revenues must be managed

prudently, and I especially applaud the President's decision to refrain from recommending any new stimulative tax incentives at this time.

I am well aware that a strong case can be made for well-structured tax changes; as the Chairman of this committee has often pointed out, we should act to remove "supply-side" disincentives in the tax system. But desirable as some types of tax cuts may be, particularly to help deal with the urgent underlying problems of productivity, costs, and incentives, such a program needs to respect the fiscal priorities. Otherwise the potential favorable effects would be swamped by a new spur to inflation, even more congested credit markets, and more economic instability. Put simply, net tax reduction can only be earned by restraint in expenditures over time, and that time has not yet come.

When the time does come for tax reduction, it should be designed with a sharp focus on achieving the nation's goals. A number of possible tax measures to reduce costs could be considered in this regard, including for example reexamination of the extent to which we rely on payroll taxes. But, it seems to me, tax restructuring should place major emphasis on stimulating business investment and enhancing productivity growth. To my mind, it would be a policy mistake of the first magnitude to dissipate opportunities for tax reduction, when and if they do arise, in measures that simply add to spending without helping to resolve the underlying problems.

Over the longer run, productivity growth is one of the keys to containing inflation, as well as being the prerequisite for raising living standards. Recent performance in that respect has

been dismal. During the two decades following World War II, output per hour worked was rising on average about 3 percent per year; since the mid-sixties, the increase has trended lower, climaxed by an actual decline in 1979.

One of the reasons for the slowdown in productivity growth over the past decade has been a slackening in the rate of capital formation. Indeed, the nation's stock of capital grew at only a 2-1/2 percent rate over the last five years--about half the pace of the preceding decade. Capital accumulation per member of the labor force has slowed even more dramatically; the stock of capital per worker has actually declined on average since 1975, and more of our present capital stock appears less directly "productive" in the sense that it is motivated by environmental or other considerations. It is clear, then, that we must design our economic policies in a way that will encourage saving and investment, and improve the rate of capital formation, if we are to ensure the ability of the economy to provide sustained advances in living standards and to meet those other objectives not captured in the production statistics.

Another element in the long-range program to increase productivity and living standards, and reduce inflation, would be a new look at the federal government's regulatory activities--both social regulations and economic regulations. This year's Economic Report discusses the need for striking a proper balance in regulation, an area where, I sense, sound concepts of comparing costs

with benefits have been sorely lacking. I do not underestimate the difficulty; reality is complex and each new regulation seems to generate its own vested interests, with talented and vocal advocates. Yet, instances where obsolete government intervention actually hurts, rather than helps, the consuming public have often been cited, and newer regulations can be challenged on the same grounds. Even in areas where elimination of government regulation would clearly be inappropriate--such as the protection of the environment, health, and safety--I feel certain we can do a better job in assuring that the benefits of protection are weighed carefully against the costs of achieving them.

In the context of declining productivity it is even more apparent that moderation in wage growth is needed if we are to gain control over inflation. Last year hourly compensation increased about 9 percent. Combined with an actual decline in productivity of more than 2 percent, these wage increases drove unit labor costs up more than 11 percent--a marked acceleration from 1978 and thus a substantial source of added inflationary pressures. I welcome any assistance that can be obtained through cooperative and voluntary programs by way of educating business and labor as to the need for restraint and in heading off excesses. An effective program, emphasizing the ultimate futility of attempts to recover losses of real income required by productivity declines or external shocks potentially can dampen a ratcheting up of the wage-price spiral. But let us recognize, too, that experience here and abroad confirms



that such programs cannot be the backbone of an anti-inflation policy. And, let us also appreciate, and avoid, the risk that such programs may lull us into thinking they are a substitute for monetary and budgetary discipline; in that event, the net effect would be counter-productive.

Of course, we will remain highly vulnerable to external developments so long as we are heavily dependent on imported oil. I will note, without belaboring a point that has been made so many times, that recent events only underscore the need to come to grips with this problem.

Part of the solution seems to me to require that we recognize the need to allow increases in the price of oil and related products to reflect their true scarcity. Sometimes the short-term impact of such a policy on the price indices is cited as an almost insuperable obstacle to such an approach. To be sure, the short-term dilemma reinforces the need for firm anti-inflationary policies to avoid further increases in inflationary expectations. But benefits over time would be substantial, for the longer we delay adjusting to the realities of the energy markets, the longer we will be vulnerable to spiraling prices at inopportune times, to say nothing of physical shortages.

The period we are now in surely will test our patience, our wisdom, and our common sense. The problems we face are not easy ones, and the policy decisions they call forth are not necessarily going to win popularity contests today. Yet, what

strikes me is the understanding by the American people of some basic truths: the need for economic restraint, applied consistently and persistently; the fact that creation of money is no substitute for production and productivity; the absence of painless quick fixes.

You are better judges of the national mood than I. But I do have certain convictions. Events of recent years have given all of us--from our national leaders to the most humble citizen--some insight into what it means to really have to worry about the value of the dollar, at home and abroad, not just its implications for economic stability and for our national pride, but for our sense of value and our ability to exercise leadership in the world. There is no longer any soft or easy option of simply accepting another turn of the inflationary screw as a by-product of buying our way out of stagnation or slump. I also know the "payoff" over time from policies to restore stability and productivity can be huge for all Americans. That is why I feel so strongly we must "stick with it" until the job is done.

## The New Federal Reserve Technical Procedures for Controlling Money

As part of its anti-inflationary program announced on October 6, 1979, the Federal Reserve changed open market operating procedures to place more emphasis on controlling reserves directly so as to provide more assurance of attaining basic money supply objectives. Previously, the reserve supply had been more passively determined by what was needed to maintain, in any given short-run period, a level of short-term interest rates, in particular a level of the federal funds rate, that was considered consistent with longer-term money growth targets. Thus, the new procedures entail greater freedom for interest rates to change over the short-run in response to market forces. <sup>1/</sup>

This note describes the new technical operating procedures and how the linkage between reserves and money involved in the procedures is influenced by the existing institutional framework and other factors. This linkage is relatively complicated and variable, particularly over the short-run, so that, for example, it does not necessarily follow that rapid expansion of reserves would be accompanied by, or would presage, rapid expansion of money. The exact relationship depends on the behavior of other factors besides money that absorb or release reserves, and consideration must also be given to timing problems in connection with lagged reserve accounting.

In setting reserve paths to control money under existing conditions account must be taken of: (i) the prevailing reserve requirement structure, with varying reserve requirements by type of deposit (some of which may not be included in targeted money measures) and by size of deposit; (ii) the public's demand for currency relative to deposits; (iii) availability of reserves at bank initiative from the discount window; (iv) lags in response

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<sup>1/</sup> Consistent with this, the federal funds rate range adopted by the Federal Open Market Committee for an intermeeting period has been greatly widened.

on the part of the public and banks to changes in reserve supply through open market operations; (v) the growing amount of money-supply type deposits at institutions not subject to reserve requirements set by the Federal Reserve; (vi) lagged reserve accounting. To help insure that operations are undertaken most effectively, the Federal Reserve has the new operating technique and related factors under continuous examination in light of experience gained. At present, studies are under way on such elements as lagged reserve accounting and the role of the discount window. Possible changes in other elements involved with the technique would require Congressional action--such as extending reserve requirements to nonmember institutions and certain aspects of simplifying reserve structure.

The principal steps in the new procedure are outlined below.

(1) The policy process first involves a decision by the Federal Open Market Committee on the rate of increase in money it wishes to achieve. For instance, at its October 6 meeting, taking account of its longer-run monetary targets and economic and financial conditions, the Committee agreed upon an annual rate of growth in M-1 over the 3-month period from September to December on the order of  $4\frac{1}{2}$  percent, and of M-2 of about  $7\frac{1}{2}$  percent, but also agreed that somewhat slower growth was acceptable.

(2) After the objective for money supply growth is set, reserve paths expected to achieve such growth are established for a family of reserve measures. These measures consist of total reserves, the monetary base (essentially total reserves of member banks plus currency in circulation), and nonborrowed reserves. Establishment of the paths involves projecting how much of the targeted money growth is likely to take the form of currency, of deposits at nonmember institutions, and of deposits at member institutions (taking account of differential reserve requirements by size of demand deposits and between the demand and time and savings deposit components of M-2).

Moreover, estimates are made of reserves likely to be absorbed by expansion in other bank liabilities subject to reserve requirements, such as large CD's, at a pace that appears consistent with money supply objectives and also takes account of tolerable changes in bank credit. Such estimates are necessary because reserves that banks use to support expansion of CD's, for example, would not be available to support expansion in M-1 and M-2. Thus, if the reserves required behind CD's were not provided for in the reserve path, expansion in M-1 and M-2 would be weaker than desired. The opposite would be the case if the reserve path were not reduced to reflect contraction of large CD's. For similar reasons, estimates are also made of the amount of excess reserves banks are likely to hold.

(3) The projected mix of currency and deposits, given the reserve requirements for deposits and banks' excess reserves, yields an estimate of the increase in total reserves and the monetary base consistent with FOMC monetary targets. The amount of nonborrowed reserves--that is total reserves less member bank borrowing--is obtained by initially assuming a level of borrowing near that prevailing in the most recent period. For instance, following the October 6 decision, a level of borrowing somewhat above that of September was initially assumed. Following subsequent meetings, the assumed level of borrowing for the nonborrowed path was always close to the level prevailing around the time of the FOMC meeting, though varying a little above and below that level.

(4) Initial paths established for the family of reserve measures over, say, a 3-month period are then translated into reserve levels covering shorter periods between meetings. These paths can be based on a constant seasonally adjusted rate of growth of the money targets on, say, a month-by-month basis, or can involve variable monthly growth rates within the 3-month period if that appears to facilitate achievement of the longer-run money targets.

(5) Total reserves provide the basis for deposits and thereby are more closely related to the aggregates than nonborrowed reserves. Thus total reserves represents the principal over-all reserve objective.<sup>1/</sup> However, only nonborrowed reserves are directly under control through open market operations, though they can be adjusted in response to changes in bank demand for reserves obtained through borrowing at the discount window.

(6) Because nonborrowed reserves are more closely under control of the System Account Manager for open market operations (though subject to a small range of error because of the behavior of non-controlled factors affecting reserves, such as float), he would initially aim at a nonborrowed reserve target (seasonally unadjusted for operating purposes) established for the operating period between meetings. To understand how this would lead to control of total reserves and money supply, suppose that the demand for money ran stronger than was being targeted--as it did in early October of last year. The increased demand for money and also for bank reserves to support the money would in the first instance be accompanied by more intensive efforts on the part of banks to obtain reserves in the federal funds market, thereby tending to bid up the federal funds rate, and by increased borrowing at the Federal Reserve discount window. As a result

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<sup>1/</sup> In the control process, the monetary base in practice is given less weight than total reserves. This is principally for a technical reason. If currency, the principal component of the base, is running stronger than anticipated, achievement of a base target would require a dollar-for-dollar weakening in member bank reserves. But, because of fractional reserve requirements, the weakening in reserves would have a multiple effect on the deposit components of the monetary aggregates (it could weaken the demand deposit component by about 6 times the decline in reserves). Achievement of a base target in the short run could therefore lead, in this example, to a much weaker money supply than targeted. If a total reserve target were achieved, the money supply would be stronger than targeted, but only by the amount by which currency is stronger than expected. Thus, the variation from a money supply target would be less under total reserves than under a monetary base guide. Of course, should currency persistently run stronger or weaker than expected, compensating adjustments could be made to either a total reserves or monetary base target.

of the latter, total reserves and the monetary base would for a while run stronger than targeted. Whether total reserves tend to remain above target for any sustained period depends in part on the nature of the bulge in reserve demand--whether or not it was transitory, for example--and in part on the degree to which emerging market conditions reflect or induce adjustments on the part of banks and the public. These responses on the part of banks, for example, could include sales of securities to the public (thereby extinguishing deposits) and changes in lending policies.

(7) Should total reserves be showing sustained strength, closer control over them could be obtained by lowering the nonborrowed reserve path (to attempt to offset the expansion in member bank borrowing) and/or by raising the discount rate. A rise in the discount rate would, for any given supply of nonborrowed reserves, initially tend to raise market interest rates, thereby working to speed up the adjustment process of the public and banks and encouraging a more prompt move back to the path for total reserves and the monetary base. Thus, whether adjustments are made in the nonborrowed path--the only path that can be controlled directly through open market operations--and/or in the discount rate depends in part on emerging behavior by banks and the public. Under present circumstances, however, both the timing of market response to a rise in money and reserve demand, and the ability to control total reserves in the short run within close tolerance

limits, are influenced by the two-week lag between bank deposits and required reserves behind these deposits.<sup>1/</sup>

(8) Other intermeeting adjustments can be made to the reserve paths as a family. These may be needed when it becomes clear that the multiplier relationship between reserves and money has varied from expectations. The relationship can vary when, for example, excess reserves and non-money reservable liabilities are clearly running higher or lower than anticipated. Since October 6 such adjustments during the intermeeting period have been made infrequently. Given the naturally large week-to-week fluctuations in factors affecting the reserve multiplier, deviation from expectations in one direction over a period of several weeks would be needed before it would be clear that a change in trend has taken place.

A variable relationship between expansion of reserves and of money is implicit in the description of procedures just given. This is illustrated by experience in the fourth quarter, as shown in the table on the next page. It can be seen from panel I that M-1 increased at only a 3.1 percent annual rate (seasonally adjusted) in that period and M-2 at a 6.8 percent rate. At the same time, as shown in panel II, nonborrowed reserves, total reserve and the monetary base rose at substantially more rapid rates--by annual rates of about 13, 13½, and 8 percent, respectively.

There were a number of reasons for the much more rapid growth in reserves and the base than in the monetary aggregates. Only about 1 percentage point of the 13½ percent annual rate of increase in total reserves

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<sup>1/</sup> Under lagged accounting, banks are not required to hold reserves against deposits until two weeks later. With required reserves fixed at that time, the Federal Reserve in its operations is limited in its ability to control total reserves within a given week (since the total of reserves is determined by required reserves and banks' excess reserves), but can more readily determine whether the banking system satisfies its reserve requirement through the availability of nonborrowed reserves, or is forced to turn to the discount window (or to reduce excess reserves, though most banks are usually close to minimal levels in that respect).



Changes in Reserve and Monetary Aggregates  
September to December 1979  
(Seasonally adjusted)

	<u>Percent Annual Rate</u> <sup>1/</sup>	<u>Change in Millions \$</u>
<b>I. Changes in Monetary Aggregates:</b>		
A. M-1	3.1	2845
1. Currency outside banks	5.3	1400
2. Member bank demand deposits	2.3	972
3. Nonmember bank demand deposits	2.1	473
B. M-2	6.8	15961
<b>II. Changes in Reserves and Related Items:</b>		
A. Nonborrowed reserves	12.9	1309
B. Borrowings	--	131
C. Total reserves (A + B)	13.8	1430
D. Currency <sup>2/</sup>	5.9	1606
E. Monetary base (C + D)	8.1	3046
	<u>Percentage Points Contributed Towards Growth of Total Reserves</u>	<u>Change in Millions \$</u>
<b>III. Total Reserves Absorbed by:</b>		
A. Private demand deposits	1.1	111
B. Interbank demand deposits	2.7	280
C. U.S. Government demand deposits	0.0	3
D. Large, negotiable CD's	3.6	378
E. M-2 time and savings deposits	4.5	466
F. Nondeposit items	0.0	-3
G. Excess reserves	2.0	205

**Addendum:**

Impact of lagged reserve accounting on:

1. Total reserves	287 <sup>3/</sup>
2. Reserves against private demand deposits	-64
3. Reserves against M-2 time and savings deposits	121
4. All other items subject to reserves	230

<sup>1/</sup> Growth rates of reserves adjusted for discontinuities in series that result from changes in Regulations D and M.

<sup>2/</sup> Includes vault cash of nonmember banks.

<sup>3/</sup> Reflects change in total reserves during period attributable to fact that required reserves are based on deposits two weeks earlier, rather than on deposits contemporaneous with reserves. Thus, adjusted to a basis contemporaneous with deposit growth from September to December, total reserves would have expanded \$287 million, or 2.8 percentage points, less than they actually did.

supported growth in the member bank demand deposit component of M-1 (as may be seen from line III.A of the table). An additional  $4\frac{1}{2}$  percentage points supported the member bank interest-bearing component of M-2 (line III.E). Thus less than half of the increase in reserves supported expansion in targeted monetary aggregates. More than half of the reserves supported expansion in interbank demand deposits, excess reserves, and large negotiable CD's. If these reserves had not been supplied, growth in M-1 and M-2 would have been much slower. In fact, actual growth in M-1 and M-2 was a bit slower than targeted, though not less than the Committee found acceptable.<sup>1/</sup>

As this example from recent experience helps demonstrate, the behavior of reserve measures in relation to money can be expected to vary with shifts in the currency and deposit mix, with changes in bank demands for excess reserves and borrowing, and with timing problems related to lagged reserve accounting. But even in evaluating money growth itself, which the Federal Open Market Committee sets as a target in the policy process, recognition has to be given to the likelihood that money growth can vary substantially on a month-to-month basis in view of inherently large and erratic money flows in so vast and complex an economy as ours.

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<sup>1/</sup> Moreover, the relatively rapid expansion in reserve measures was not associated with strength in bank credit, which in the fourth quarter grew at only about a 3 percent annual rate, well below its earlier pace. The slow expansion in bank credit during the fourth quarter reflected, on the liability side, a sharp reduction in the outstanding amount of borrowing by banks through Euro-dollars, federal funds, and repurchase agreements.