

Monetary Objectives and Monetary Policy

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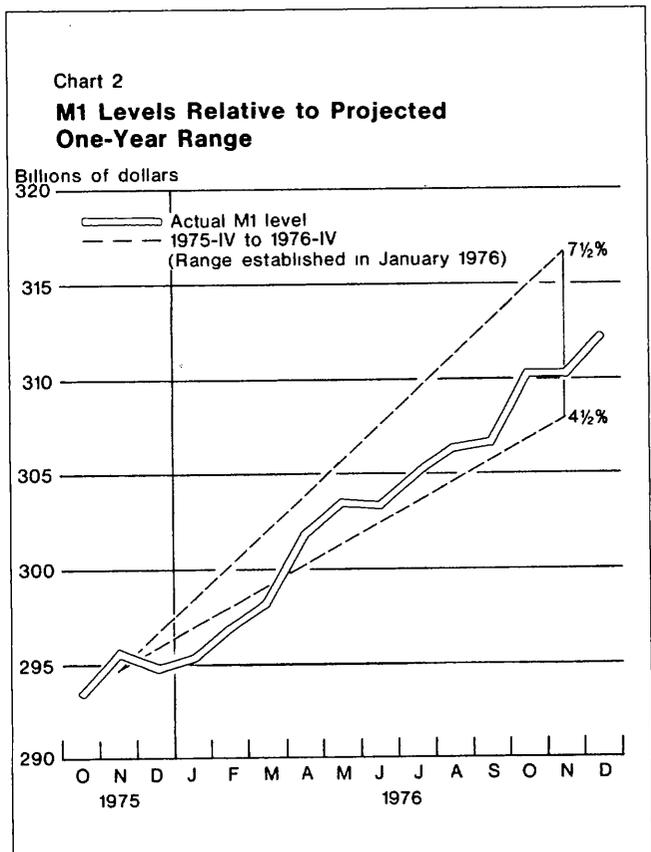
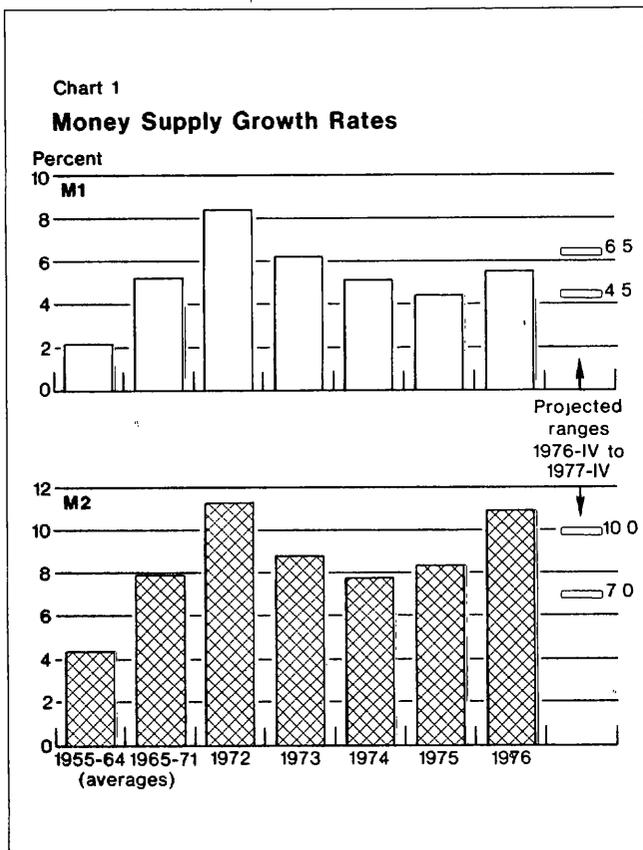
Since the spring of 1975 the Federal Reserve has been announcing projected growth ranges for several measures of money and bank credit. The use of such monetary "targets" raises a wide range of issues in monetary economics, from the rather narrowly technical to the more broadly philosophical. Since the 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.

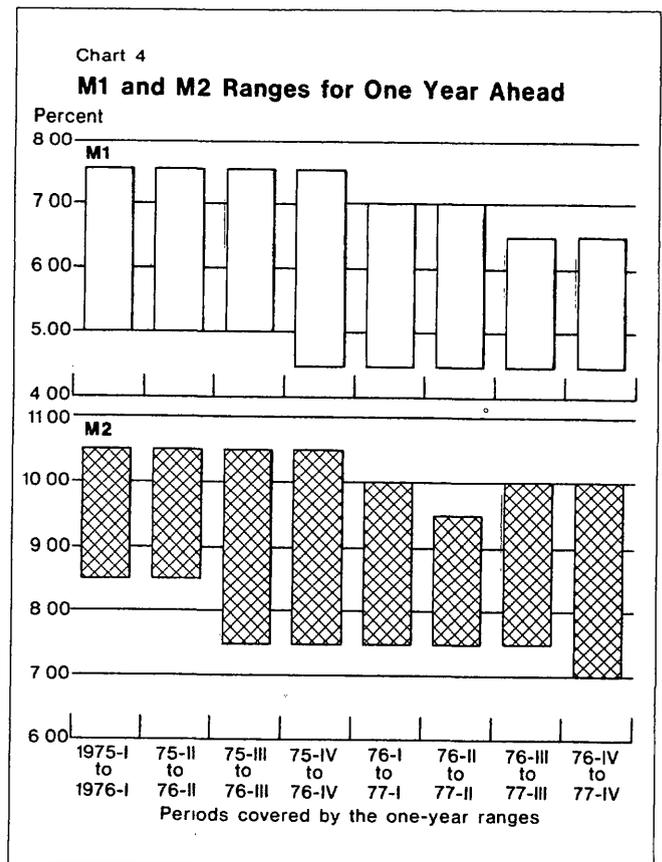
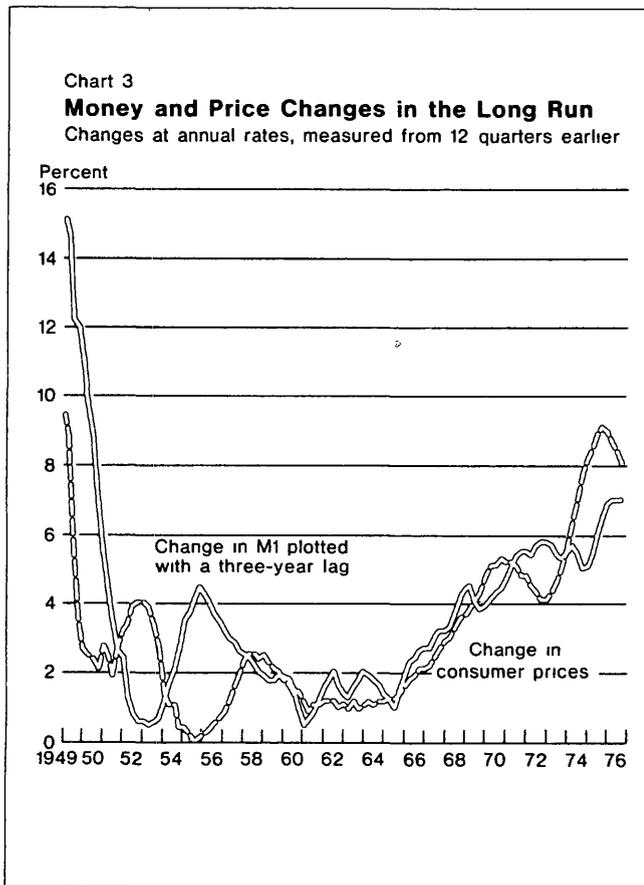
Immediate circumstances aside, Chairman Arthur F. Burns and other senior Federal Reserve officials, including President Paul A. Volcker of the New York Reserve Bank, have frequently emphasized that the overall process of setting monetary aggregate targets has been influenced since its inception by a 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



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

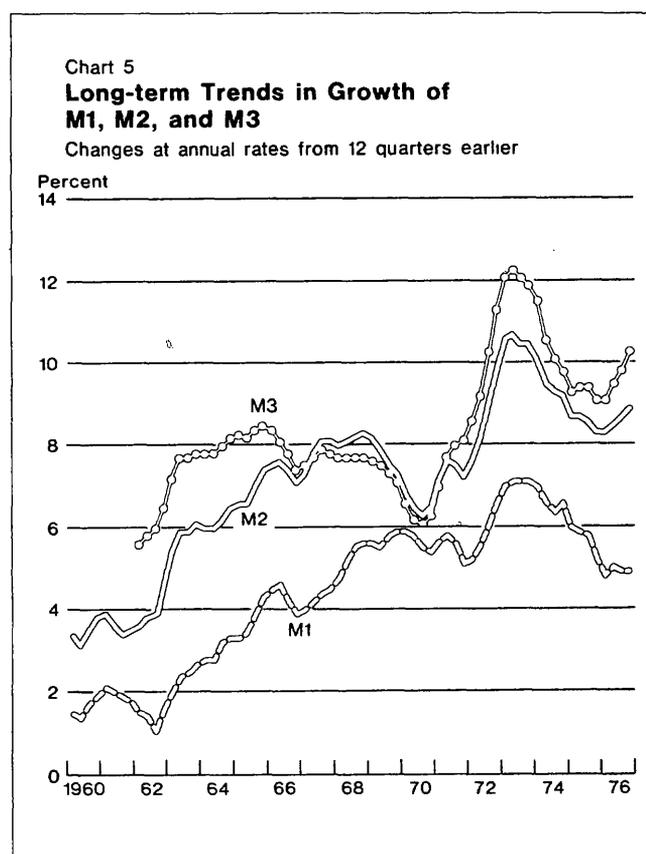
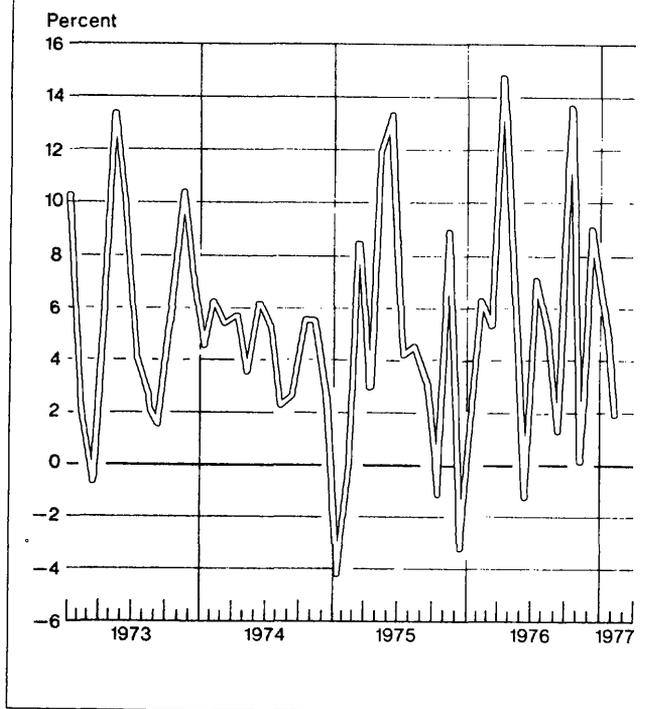


Chart 6

Behavior of M₁: Narrow Money Supply

Changes 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-

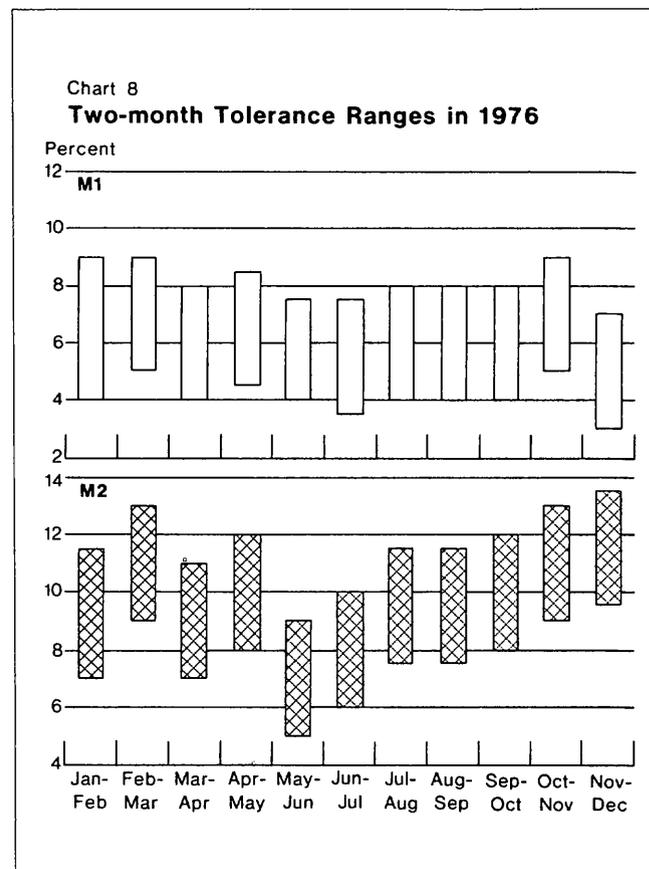
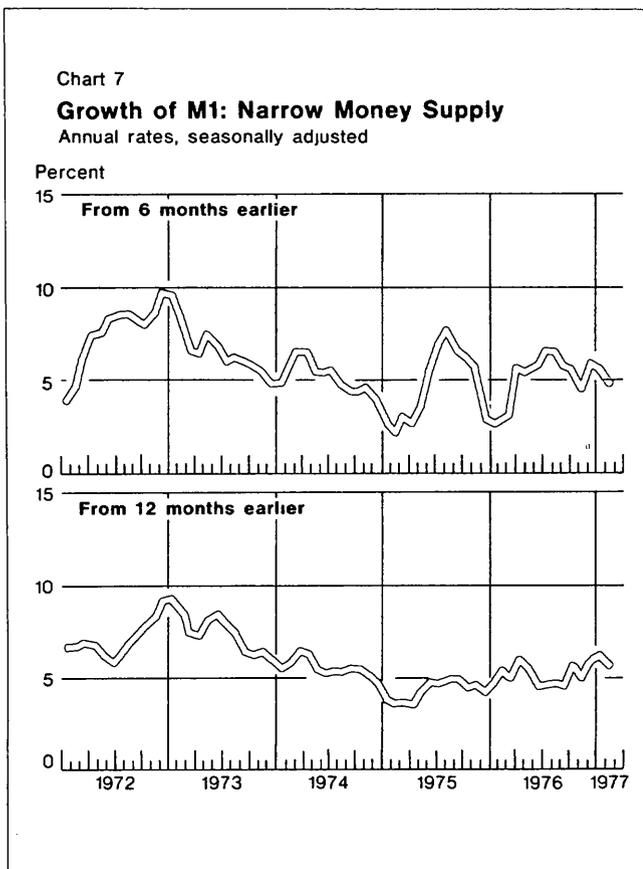
ruary). Even on a quarterly average basis, seasonality is critical, with differences between adjusted and unadjusted annual rates of growth amounting to as much as 6.4 percentage points (in the fourth quarter). Obviously, uncertainties about the appropriate seasonal adjustment factors can translate into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

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.

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