

Federal Reserve Bank of Minneapolis

Quarterly Review

Fall 1980



A New Approach to Monetary Control (p. 1)

*Supply-Side Tax Cuts:
Will They Reduce Inflation? (p. 6)*

*Integrating Micro and Macroeconomics:
An Application to Credit Controls (p. 16)*

District Conditions (p. 30)

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Quarterly Review Vol. 4, No. 4

This publication primarily presents economic research aimed at improving policymaking by the Federal Reserve System and other governmental authorities.

Produced in the Research Department. Edited by Arthur J. Rolnick, Kathleen S. Rolfe, and Alan Struthers, Jr. Graphic design and charts drawn by Phil Swenson, Graphic Services Department.

Address requests for additional copies to the Research Department, Federal Reserve Bank, Minneapolis, Minnesota 55480.

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*A New Approach to Monetary Control**

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Federal Reserve Bank of Minneapolis

October 6, 1979, has become one of those dates which is instantly recognized as being associated with something important—and rightly so. After all, it was the day on which Pope John visited Washington, D.C.

However, as you and I know, the Pope's visit was not the only extraordinary event occurring in Washington on that fall Saturday morning. The Federal Open Market Committee (FOMC) had assembled in an extraordinary Saturday session. At the conclusion of the meeting the Fed announced a series of policy changes which included some conventional moves and a change in the method used to conduct monetary policy. Specifically, the Fed indicated its intent to place "greater emphasis in day-to-day operations on the supply of bank reserves and less emphasis on confining short-term fluctuations in the federal funds rate."[†]

This change in operating procedures—or, to be more precise, the change in emphasis in operating procedures—was a recognition that, because of sudden and unpredictable shifts, the relationship between the amount of money demanded and interest rates had weakened. Hitting a specified funds rate target, therefore, provided increasingly less assurance that the corresponding money targets would be hit—even over long periods of time. Aside from the technical issue of how to best control money, the change in procedures was also intended to draw greater public attention to the notion that one necessary prerequisite to controlling inflation over time rests in achieving disciplined and restrained growth in money and credit.

*Remarks made at the Financial Forum of the Graduate School of Business Administration, New York University, November 3, 1980.

† See Announcements, *Federal Reserve Bulletin* 65 (October 1979):830.

Now, more than a year later, it is appropriate that we consider our experience with these new operating procedures. As someone who reads the financial press carefully and spends a fair amount of time talking with people in the markets, I am struck with the skepticism that still exists as to whether, in fact, anything has really changed. By the same token, I am also struck at times by the extent to which other observers, both in the markets and in academic circles, argue that too much has changed. Thus, the focus of my remarks will be on my perceptions of the changes that have occurred in our operating techniques.

Something has changed

From my vantage point, the fact that something has changed is clear. And I think that the evidence of change is beyond dispute. I know that from the nature of the discussions at the meetings of the FOMC; I know that from the language of the Committee's directives to the Manager of the System Open Market Account; I know that from the manner in which information is presented to the Committee by the staff and by the manner in which the Committee reacts to the information at its disposal.

These inherently immeasurable indications of change are reinforced by indications of change in market variables. Here, too, the evidence of change is, I believe, convincing. The daily movement in the funds rate was twice as large after October 1979 as it was in a comparable period before then. Likewise, the monthly variability of the funds rate was substantially larger after October 1979 than before. Of course, this change in variability may be due to factors other than our new operating procedures. There is, however, less

ambiguous evidence of a change in policy. Our Research Department at the Minneapolis Fed developed mathematical characterizations of how the FOMC reacted to changes in the money supply, interest rates, and several other economic variables in two comparable periods before and after October 1979. To put it simply, they expressed the Fed's decision rules as formulas. They found that, using standard statistical techniques, they could strongly reject the claim that there has been no change in the way the Fed reacts to developments in the money supply and interest rates. They found that the Fed has indeed been following a new policy. The result of this new policy is that the federal funds rate is more sensitive to changes in the growth of money; it responds both more quickly and more sharply.

I do not mean to suggest that interest rates never enter into the Committee's deliberations. The Committee's directives still contain a band on the funds rate, a band that is typically 500 to 600 basis points wide. By and large, however, the band is viewed by the Committee as a reference point for consultations rather than a strict constraint on day-to-day operations as it was in the past. Also, the limits on the funds rate band are looked at in terms of weekly averages rather than limits for individual days or points of time within days. Here, too, I believe the record confirms the fact that the Committee is less concerned with interest rates than before.

I know that some would argue that the mere presence of a funds rate band—no matter how wide and no matter how willing the Committee to alter its limits—constitutes *prima facie* evidence that nothing has changed. I also know that some observers continue to believe that there is, in some sense, a *de facto* narrow limit on even daily movements in the funds rate. I do not accept those views, nor do I accept the view that monetary policy should be totally indifferent about interest rates. Whatever one claims about the role of interest rates in the process of monetary policy formulation, they are and will remain the vehicles around which households, businesses, and financial institutions make portfolio adjustments. Those portfolio decisions have implications for economic activity, and they may have important implications for the size of the reserves multiplier. These considerations insure that interest rates will play a role in deliberations about monetary policy. However, neither this inevitability

nor the Committee's practice of establishing large ranges for federal funds rate movements is incompatible with the changed policy that the Fed has followed since last October. In short, policy has changed, but not to the total exclusion of any consideration of interest rates. But, clearly, interest rates rank lower—much lower—in the hierarchy of things than they did prior to October 6, 1979.

Good and Bad Results

The results of the change in policy emphasis are, of course, more important than the changes themselves. In looking at those results, I would have to concede that we have a little bit of the good news—bad news syndrome. The good news takes two forms: first, the objective of calling increased public attention to the need for restrained growth in money and credit over time has been eminently successful—at times I am tempted to think almost too successful! Second, looked at over time, the growth of money has been restrained. For example, from the fourth quarter of 1979 to the fourth quarter of 1980, M1A and M1B are estimated to have grown at annual rates of about 5.5 and 7.5 percent, respectively, while the growth of M2 has been at 9.7 percent. For 1980 to date, M1A is within its target range, and M1B and M2 are currently running somewhat above the targets for the year, following the burst of money growth experienced in recent months—a surge in money growth that is not all that easy to understand. (See the box for an analysis of money growth using more recent data.)

In considering those ranges and actual money growth for 1980, I would also note that when those ranges were announced last February, they were universally viewed as rigorous and demanding—indeed, to some, virtually unattainable. Thus, at this point, and looked at in the perspective of appropriately long time frames, I have to conclude that we have had a measure of success in keeping the growth of money in line with intentions and in line with a pattern of growth that should be compatible with a reduction in inflation over time.

The bad news, of course, is that over the period in question we have had considerably more variability in both money growth and interest rates than we might have hoped for. That variability is troubling in part because it complicates decision making and financial planning and also because it tends to feed upon itself,

particularly in markets that are as sensitized as ours seem to be. Thus, I think it is important that we seek to understand the reasons for this variability and seek to find ways to minimize it in the future.

Correcting a Misspecification

When an adjustment is made for a technical misspecification, monetary growth for 1980 as a whole was in line with the Fed's objectives.

The Federal Reserve's targets for the growth of the monetary aggregates over 1980 were developed at the outset of the year. In developing the targets at that time, an estimate had to be made of the amount of conventional demand and savings deposits that would shift into new types of interest-earning checking accounts such as ATS and NOW accounts. Such shifts—which have little or no economic significance—can distort the measured rates of growth of the various monetary aggregates. For example, because the new types of checkable deposits are not included in the definition of M1A but are included in M1B, shifts from conventional checking accounts into them tend to artificially depress the growth of M1A and to artificially increase the growth of M1B. Similar shifts out of conventional savings accounts, which are in M2 but not in M1B, into the new types of checking accounts also tend to artificially increase the measured growth of M1B.

The money growth targets for 1980, as specified in February 1980, assumed that such shifts would amount to a 0.5 percentage point difference between the midpoints of the targeted growth ranges for M1A and M1B in 1980. It now appears that the differential between the growth of M1A and M1B for the year will be about 2 full percentage points because the new types of checkable deposits have grown much more rapidly than initially assumed. Thus, the 1980 growth targets were technically misspecified.

Adjusting the targets for this technical misspecification requires lowering the targeted growth range for M1A about 1 percentage point and increasing the targeted range for M1B about 0.5 percentage point. When this adjustment is made, the actual growth rates of M1A and M1B are a bit more than 5 and 7 percent, respectively (measured on a fourth quarter 1980 over fourth quarter 1979 basis), each about at the top of the targeted growth range for the year. Thus, despite the troubling short-run variability in money growth rates during the year, the performance of money growth relative to targets for the year as a whole was in line with intentions.

Reasons for Variability

As I see it, a variety of factors—some *real*, others *technical*—contributed to the variability we have witnessed. On the real side, I am convinced that the sudden imposition and then removal of credit controls did produce a significant shift and countershift in the demand for money balances which contributed importantly to the sharp drop and subsequent rebound in the growth of money. Similarly, the pattern of growth in nominal income also had a major impact on the variability of both money and interest rates. Indeed, I would guess that the amplitude of the swing in the growth of nominal income between April and September-October of this year must rank as one of the sharpest such swings over such a short interval in our recent economic history. Surely, the amplitude of that swing in nominal income contributed directly and importantly to the fall and subsequent rise in money and interest rates.

To the extent that these judgments are correct, the horns of the dilemma facing the Fed become more evident. The amplitude of the swing in money could, perhaps, have been moderated, but at the expense of a still sharper swing in interest rates. As I see it, there is no other set of circumstances that could have produced less variability in money in those circumstances, but I have to ask myself whether it would have been prudent to seek to moderate the swing in money by producing still larger variations in interest rates, particularly since there are lags between changes in Fed actions and changes in the growth in money.

On more technical grounds, there are at least three sets of factors which have contributed to the variability we have seen. First, there are lags in the adjustment process between the growth of reserves and the growth in money. When the Fed sets or adjusts a reserve path or when market rates rise or fall sharply in response to changes in the demand for credit, the adjustments and portfolio shifts that ultimately reflect themselves in altered growth rates in money take time. The length and stability of these lags are open to some debate, but their presence is beyond dispute. Thus, if the money supply and interest rates drop sharply—say, for a quarter—with a given reserve path, the drop itself tends to set into play corrective forces in the opposite direction. If, in response to the drop in money growth, the Fed raises its reserve path, its action might not

have any effect until the correcting move has already begun. Then the correcting move in the opposite direction would be amplified, just the opposite of the intended result.

The presence of these lags greatly complicates the already complex question of what kinds of information and developments the Fed should react to, given targets for the growth in money and some initial path of reserves thought to be compatible with that desired growth rate in money. Suppose, for example, operations remain right on path, but for a week, a month, or even a quarter, money growth is faster than expected or desired. Do you adjust the path, or do you assume that the money growth pattern is simply an aberration that will work out over time? These decisions are never easy, but in an environment in which there are lags, they become even more difficult, because if an adjustment in the reserve path is made, that very adjustment may produce conditions in the future that will ultimately require offsetting actions in the opposite direction.

A second technical source of the variability in money and interest rates that we have witnessed may be traced to lagged reserve accounting. Lagged reserve accounting was not a problem in the context of the old operating procedures, and, in most weeks, it is not a major problem under the new operating procedures. However, on those few occasions in which there are large and unexpected deviations in deposit growth, the presence of lagged reserves can add to our problems. For example, absent lagged reserves, the funds market might provide a quicker tip-off of a sudden surge in money growth, and the resulting transitory run-up in the funds rate might help to blunt the surge in money growth. At the very least, we would know more sooner. Thus, contemporaneous or at least more contemporaneous reserve accounting might help. However, even here there are sharply differing viewpoints as to just how much help would be forthcoming.

Finally, and still on the technical side, we are bedeviled by a whole range of definitional and measurement problems. The disparity between the growth of M1A and M1B which has emerged during 1980 as a result of shifts into automatic transfer service (ATS) accounts is a case in point. The still somewhat mysterious growth in money by \$10 billion in the single week of August 6 is another case in point. In this regard, I wish I could tell you that these kinds of data

problems were a thing of the past. Unfortunately, that will not be the case—at least for a while. For example, the introduction of negotiable order of withdrawal (NOW) accounts nationwide beginning in January 1981 will surely bloat the growth of M1B in a wholly artificial way for some time. Similarly, as thousands of institutions begin filing reports of deposits with the Fed and maintaining reserves with the Fed for the first time as required by the Monetary Control Act, there is sure to be a period of at least several months in which reporting errors and other operating problems will produce errors and distortions in both reserve and money numbers. While both of these particular problems should be transitory, they will almost certainly produce some confusion and some doubt as to the underlying intent and performance of Fed policy.

The new procedures are better

Against the backdrop of the good news and the bad news, the obvious question that arises is, What is the bottom line—are the post-October 6 techniques an improvement over the pre-October 6 procedures? My answer is yes. I reach that conclusion not simply because the evidence of what, in fact, has occurred since October 6 is, on balance, compatible with that conclusion. I also have to ask myself the question of what would have occurred had the change in policy not occurred. That question, to be sure, is a hypothetical one that is open to considerable debate. However, whatever the problems with the new procedures, I at least am willing to speculate that the growth of money for the period as a whole would not have been as restrained as it has been were it not for the change.

Having said that, I hasten to add that I believe that we can improve these techniques and procedures. In the near term, definitional and data problems—in part associated with the implementation of the Monetary Control Act—will further complicate matters. However, once the crunch associated with that process is behind us, universal reserves and reporting of deposits should help, as should the major simplification of the structure of reserve requirements. Similarly, once that initial crunch is behind us, we can take a fresh and unencumbered look at lagged reserve requirements. More fundamentally, perhaps, we now have more than a year of experience with the new procedures which, in itself, provides considerable grist for the analytical mill. That ongoing analysis of experience with the new

procedures will, I am confident, generate ideas for enhancement and improvement.

Whatever enhancements or modifications may grow out of that evaluation and out of the continued evolution of events, and even assuming the best in terms of transitional problems such as the introduction of NOW accounts nationwide, we still, in my mind, have to come to better grips with the question of what kinds of information we react to and how we react. Even in a highly simplified world in which we know exactly what "money" is and can measure it precisely from week to week, there will be deviations from targets, there will be aberrations, there will be external shocks, and there will be uncertainty. In this context, it seems to me that the wide and growing body of knowledge in the area of decision rules and information filtering may be relevant to the task of more systematically determining what is noise and what is real.

In summary, there has been a change in the way we conduct monetary policy. The change has not been without its problems, and certainly the task of monetary control faces some very tough hurdles in the year ahead. But those hurdles—the inevitable short-run blips in the money supply, the inevitable second guessing as to why the Fed entered the market at 11:07 a.m. instead of 11:30 a.m.—should not be misconstrued. The technicalities, the debate, and the dialogue aside, the underlying objective of the exercise has been and, from where I stand, will continue to be achieving rates of growth in money that, over time, are compatible with a sustained reduction in inflation.