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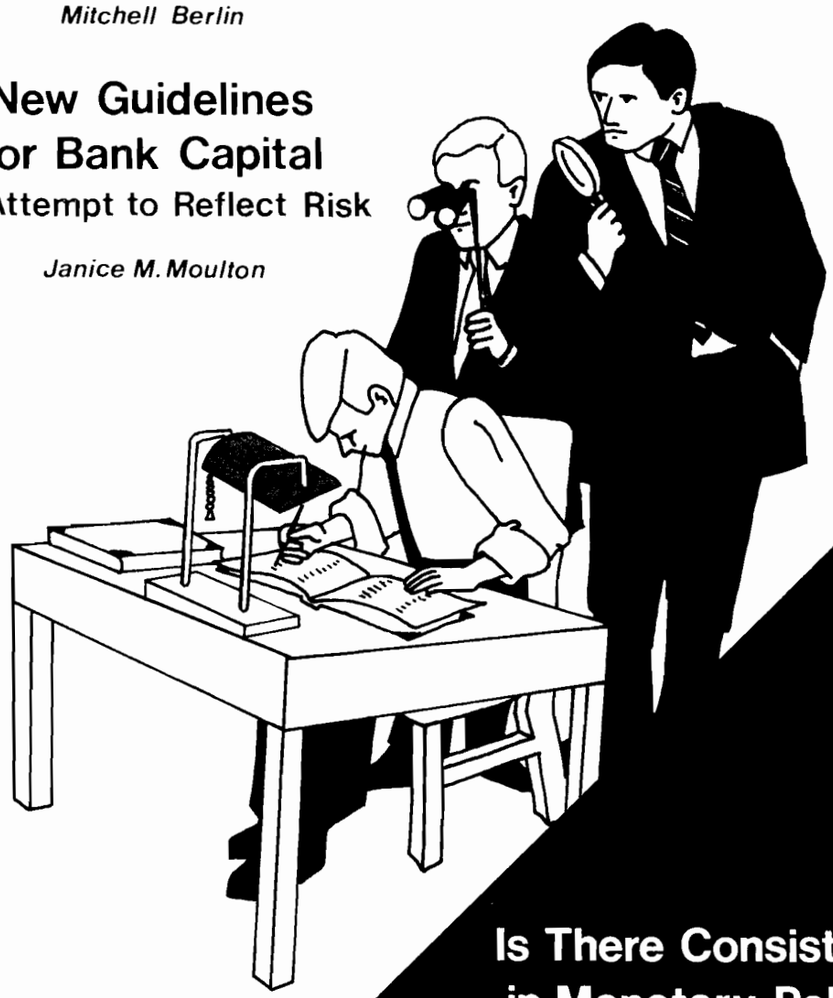

Is There Consistency in Monetary Policy?

Edward G. Boehne
President, Federal Reserve Bank of Philadelphia

BUSINESS REVIEW

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Is There Consistency in Monetary Policy?*

Edward G. Boehne, President
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One sometimes gets the impression from the press and elsewhere that both the goals and the conduct of monetary policy vary erratically, and that there is no consistency from year to year in monetary policy. Now the Federal Reserve is said to care about exchange rates. Earlier it was said to have focused on interest rates. Before that it was said to have focused on economic growth, or inflation, or unemployment, or the money supply.

As economists, we can apply some straightforward economic theory to see that monetary policy decisions over the past several years *do* fit into a consistent analytic framework. And we can ask about the implications of that analytic framework for the conduct of monetary policy during 1987 and future years. Before applying the theory we need to agree on the *goals* of monetary policy, however.

THE TWO MAJOR GOALS OF MONETARY POLICY

In my view there are two major goals of monetary policy. The first goal is achieving continued, sustainable growth to return the

*An address to the annual conference of the Pennsylvania Economic Association, Bloomsburg University, Bloomsburg, Pennsylvania, May 29, 1987.

economy to full employment and then to keep the economy at, or near, full employment. The second goal is reducing the inflation rate—at least from one business cycle to the next, if not from year to year—until price stability is achieved. It is easy for economists and policymakers to agree on these goals; it is harder to agree on specific policies to achieve them, or to agree on exactly what we mean by "full employment" or "price stability." Nonetheless, we need to keep these goals in mind as we discuss the theory of monetary policy.

THE THEORY OF MONETARY POLICY

Despite all of the arguing about the details of monetary policy, economic theory tells us that basically there are just two ways to conduct monetary policy. The first way is for policymakers to use the *money supply* as an instrument or as an intermediate target. To do so, policymakers would set the level and growth rate of the money supply at values they believe consistent with the desired level of output and desired rate of inflation, and let interest rates be determined solely by market factors. The alternative is for policymakers to use an *interest rate* as their instrument or intermediate target. Policymakers would do so by setting a nominal interest rate at a level that they believe will produce a real rate that is consistent with the desired level of output and desired rate of inflation, and let the money supply be determined by market forces.[1]

Although it is an oversimplification, we can usefully think of policymakers *as if* they target a sequence of short-run goals that converge to long-run goals, and then set the value of their chosen instrument each period so as to hit the sequence of short-run objectives. Regardless of which instrument is chosen, the appropriate value of the instrument (the value that will hit the desired short-run goal) will change if there are changes in other factors, or if there are changes in behavioral relationships.

Theory tells us that the two ways to conduct monetary policy will work equally well if there are no unanticipated shocks to either goods markets or financial markets, and if behavioral relationships are stable. If there are unanticipated shocks, however, theory tells us that the two ways to conduct monetary policy will not produce the same results.

Theory also offers some guidance about how to choose the instrument or intermediate target. When goods markets are subject to demand shocks, but financial markets are not, then the monetary authority can minimize fluctuations in output and prices around their target values by using the money supply as its instrument or intermediate target.[2] But when financial markets are subject to shocks and goods markets are not, then the monetary authority should use an interest rate as its instrument or intermediate target.[3] (I should note that the theory indicates that policymakers should use a *real* interest rate as their instrument in this situation, but in practice policymakers are limited to setting a *nominal* interest rate at a level that they hope will produce the desired real rate.) If we are in the unfortunate position of having shocks to both financial and goods markets, theory suggests that the monetary authority should focus on the primary source

[1] I should note that policymakers could also use the *exchange rate* as an instrument or intermediate target. To do so, they would have to let the money supply and interest rates adjust to whatever values are necessary to keep the exchange rate equal to its target value. In practice this would mean giving up the possibility of an independent monetary policy, and letting our monetary policy be determined by foreign central banks. That may be a good idea for some small economies, but it is not a good idea for the United States.

[2] In economists' terminology, when the IS curve is subject to shocks but the LM curve is not, then using the money supply rather than an interest rate as the instrument of monetary policy will result in smaller fluctuations in output and the price level around their target values.

[3] In technical terms, when the LM curve is subject to shocks but the IS curve is not, then using an interest rate as the instrument of monetary policy can stabilize output and the price level at their target values, while using the money supply as the monetary instrument will produce fluctuations in output and the price level.

of shocks, unless the shocks to financial and goods markets routinely happen to cancel. These results were elegantly derived by William Poole, who was then an economist in the Federal Reserve System. I will refer to these results as *Poole's Rule*.

While there are some important issues in monetary policy that are not addressed by this theoretical framework, it can nonetheless give us a good deal of insight into the recent conduct of monetary policy, and into the conduct of monetary policy during 1987 and future years. We will see that there is an underlying consistency in monetary policy in recent years.

POOLE'S RULE AND RECENT MONETARY POLICY

Many people have characterized monetary policy as being "accommodative" during the past several years, by which they mean that interest rates have fallen. I think that it is correct to characterize monetary policy during 1985 and 1986 as "accommodative," if we use that word in the economist's technical sense of accommodating shifts in the demand for money.

The last few years were a period in which the demand for money grew much more rapidly than was predictable on the basis of its historical relationship to income, interest rates, and other variables. The unusual behavior of money demand has lasted so long that one must admit that there was a shift in the demand for money, rather than just a temporary deviation from a stable demand for money function. That conclusion is inescapable for M1, which grew roughly twice as fast during 1985 and 1986 as we would have expected on the basis of its pre-1980 behavior. The conclusion also seems true for M2 and M3, although their deviations from expected growth are not so drastic. As best we can tell within the Federal Reserve, the shift in money demand reflects a change in people's preferences about how much of various assets to hold in their portfolios. The shift in portfolio preferences has resulted, in turn, from deregulation of financial intermediaries and the resulting proliferation of new financial instruments, such as super-NOW accounts.

Poole's Rule tells us that the monetary authority should choose an interest rate as its instrument if the major source of uncertainty about the economy arises in financial markets, in this case because of unpredictable behavior of money demand. That is essentially what the Federal Reserve did. Henry Wallich, then a Governor of the Federal Reserve System, described the details of that monetary policy in a speech to the Midwest Economic Association; his speech was reprinted in a 1984 article in the Kansas City Federal Reserve Bank's *Economic Review*. While the Federal Reserve does not directly control interest rates, except for the discount rate, the Federal Reserve did adjust the supply of bank reserves and the discount rate to keep the federal funds rate roughly at a level that was consistent with achieving the major goals of monetary policy. And the Federal Reserve allowed the federal funds rate to adjust in response to evidence that the economy was beginning to deviate from a path that converged to long-run full employment and price stability.

Of course the FOMC did adopt targets for growth of the money supply in 1985 and 1986.[4] But the members of the FOMC recognized that the targets were based on the assumption that the demand for money would have the same relationship to economic variables as in the past. When that assumption proved false, money growth was allowed to deviate from the targets, in accordance with Poole's Rule. It is in this sense that monetary policy was "accommodative" during recent years; the Federal Reserve accommodated a shift in the demand for money.

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[4]The Federal Open Market Committee, or FOMC, is responsible for making monetary policy decisions in the United States. The FOMC is composed of the Governors of the Federal Reserve System and, on a rotating basis, five of the Presidents of the twelve regional Federal Reserve Banks.

We know that there were surprises in goods markets as well as in financial markets over the past couple of years, although goods markets generally turned out closer to what economic forecasters had predicted. Two shocks to goods markets stand out. The U.S. trade deficit was substantially larger than had been predicted, in both 1985 and 1986, as prices of imported goods responded with a longer than expected lag to changes in the exchange rate. And tax reform generated much weaker investment spending in 1986 than had been predicted, because the forecasters had not anticipated that tax reform would actually be enacted. These shocks to goods markets generated slower than expected growth in output, and seemed likely to end progress toward full employment, at least temporarily. In response to these shocks to goods markets, the Federal Reserve lowered the discount rate, and thus the federal funds rate, to levels that seemed consistent with continued progress toward the long-run goals of monetary policy.

It is also the case that we had a good-sized "supply shock" during this period—the big drop in the price of oil during 1986. The Poole's Rule framework does not tell us how to respond to a supply shock; such a shock affects both the markets for goods and for financial instruments. We can easily convince ourselves that a one-time change in the price of oil does not change the need to use an interest rate as the instrument of monetary policy, *so long as there remains substantial uncertainty about the demand for money*. The oil price shock may well change the appropriate *level* of the instrument, however, if the shock pushes the economy away from the path that converges toward policymakers' long-term goals. On balance the oil price drop slowed the U.S. economy in 1986, as the negative effects on energy-producing regions outweighed the positive effects on energy consumers. Thus the oil price shock helped to generate a reduction in interest rates during 1986.

Looking back over the past few years, we can conclude that Poole's Rule serves us reasonably well as an aid to understanding monetary policy. Monetary policy basically used an interest rate instrument during a period of unpredictable behavior of the demand for money. The outcome was that the economy continued to expand, the unemployment rate gradually fell, and the rate of inflation declined somewhat further—even abstracting from the temporary effects of lower oil prices. We could have achieved even better results had we been able to coordinate monetary and fiscal policies more effectively, but that is something that the Federal Reserve System cannot do by itself.

THE CHALLENGE FOR MONETARY POLICY IN 1987 AND FUTURE YEARS

We know that measured inflation in 1987 will be higher than in 1986, because oil prices reversed their precipitous decline, and because the depreciation of the dollar on foreign exchange markets is generating large increases in import prices this year. Much of the measured deceleration in inflation during 1986 was a temporary phenomenon due to falling oil prices. And much of the jump in the Consumer Price Index and Producer Price Indexes early in 1987 reflects the turnaround in oil prices and higher prices of imports, rather than an acceleration of price increases for U.S.-made goods. Because oil prices are no longer rising appreciably, the jump in measured inflation during the first few months of 1987 is also likely to be temporary.

The challenge facing monetary policy now is to ensure that *temporarily* higher inflation in 1987 is *not* allowed to become *permanently* higher inflation during the following years. Fortunately, higher oil prices and higher import prices are not generating big wage increases, or widespread price increases for domestically produced goods, so far. Thus it should be possible to prevent a sustained increase in inflation without causing a sharp slowing in the economy.

What does the theoretical framework provided by Poole's Rule tell us about how to run monetary policy in 1987 and later years? Poole's Rule first leads us to ask about the sources of uncertainty

in the economic outlook. In contrast to the past few years, now it seems that the major source of uncertainty about the economic outlook comes from uncertainty about demands for goods and services. While most forecasters now expect real GNP growth of 2.5 to 3.5 percent during 1987, and roughly the same growth in 1988, there is much disagreement and uncertainty about the sources of that growth. There is uncertainty about fiscal policy because it is difficult to say with any precision just what the Congress and the Administration will do about the Gramm-Rudman-Hollings deficit reduction targets. That uncertainty is particularly acute for 1988. There is uncertainty about the effects of tax reform on consumption and investment spending; no one yet understands the full implications of the new tax law. And there is uncertainty about the future value of the dollar and how much the trade balance will improve.

Poole's Rule advises that a situation in which the major uncertainty is about goods markets (and thus about the location of the IS curve) is one in which the monetary authority should use the money supply rather than an interest rate as the instrument of monetary policy. Which measure of the money supply should the Federal Reserve use as its monetary policy instrument?

On the basis of economic relationships up to 1980, one would argue that the Fed should use M1 because M1 growth was closely linked to economic growth and, with a lag, to inflation. But on the basis of M1's behavior during the past five years, and during 1985 and 1986 in particular, one would be hard-pressed to justify using M1 as the monetary instrument. In contrast to its historical trend of 3 percent growth, M1 velocity *fell* at an average rate of nearly 9 percent during 1985 and 1986. And it is still falling during the early part of 1987. Even taking into account the declining opportunity cost of holding checkable deposits during 1985 and 1986, M1 velocity fell about four times as much as predicted. Until we get evidence that the demand for M1 has stabilized, policymakers will be reluctant to put much weight on M1 (because, in economists' jargon, controlling M1 is unlikely to result in a stable LM curve). But the Federal Reserve will continue to monitor M1 to see if its behavior does stabilize.

Because of the uncertainty about M1's behavior, policymakers are forced to rely on M2 and M3, instead. Prior to 1980, M2 and M3 growth had a looser relationship to output growth and inflation than did M1. But during the 1980s the relationship has been much more stable for M2 and M3 than for M1. Still, the relationship between M2 or M3 and future real GNP and inflation is much too loose simply to set a value of the M2 or M3 instrument that is believed consistent with the long-run goals of monetary policy, and then wait for the desired outcomes. Instead, it will be necessary to continue monitoring other economic variables for evidence on whether the economy is behaving as expected. Some people criticize this as "looking at everything," but it is a sensible thing to do in the current economic environment. By continuing to monitor a variety of economic variables, the Federal Reserve will be able to recognize a situation in which it becomes necessary to adjust the settings of the M2 and M3 instruments in order to prevent a sustained increase in the inflation rate.

By implementing a monetary policy that is consistent with low and declining inflation over the long run, the Federal Reserve will try to ensure that the temporary rise in inflation that we are seeing during 1987 does not generate expectations of permanently higher inflation. Following such a policy will help to ensure that temporarily higher inflation in 1987 is not built into large wage increases, or into large price increases for domestically produced goods. If we succeed in that task, it should be possible for the U.S. to continue making progress toward both of our long-term goals—price stability and full employment. Of course, to convince people that the Federal Reserve actually will follow a long-run anti-inflationary policy, it may well be necessary to adopt somewhat tighter monetary policy in response to short-run inflationary pressures. As Chairman Volcker indicated in

Congressional testimony at the end of April, the FOMC already has taken a step in that direction.

Let me close this discussion of Poole's Rule and how it helps us to understand current monetary policy by cautioning you that the Federal Reserve does not have direct control over M2 and M3. So M2 and M3 are unlikely to grow as smoothly as one might like. Because the Fed can affect M2 and M3 only indirectly, it would be a mistake to interpret month-to-month variations in M2 or M3 growth as indications of changes in monetary policy. But Poole's Rule does indicate that in contrast to 1985 and 1986, this year is a good year for policymakers to pay more attention to the average growth rate of the money supply—along with other data that would reveal the presence of shocks to goods or financial markets—and to focus less on the level of interest rates as an intermediate target.

THE UNDERLYING CONSISTENCY IN MONETARY POLICY

Let me conclude by recalling the two major goals of monetary policy. First, a continued, sustainable return to full employment. Second, continued progress toward lower inflation and eventual price stability. For 1987 in particular, the challenge is to ensure that *temporarily* higher inflation caused by higher oil prices and rising import prices is *not* allowed to become *permanently* higher inflation.

Economic theory tells us that the proper way to implement monetary policy in order to achieve these goals may change from time to time, as it has during the 1980s, depending upon the source of shocks to the economy. So while some critics may give the impression that the goals and conduct of monetary policy vary erratically, as economists we should understand that there is in fact an underlying consistency.