

# Commentary: The Role of Judgment and Discretion in the Conduct of Monetary Policy

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When the organizers of this conference invited me to discuss Benjamin Friedman's paper, they anticipated that we would not agree about the costs and benefits of adherence to precommitted policy programs, or rules. I will not disappoint them. But I would like to begin by commending Ben for defining discretion, outlining some of the procedures for implementing a discretionary policy, and arguing for its virtues. In a time when efficient markets, rational expectations, neutral money, and time consistency have changed academic discussion, it has become hard to find an academic economist who defends discretionary monetary policy.

Earlier generations of economists rarely defined or defended discretion. They were content to criticize rules that fixed the rate of money growth **once-and-for-all**. Using real or hypothetical examples, they showed that there were costs of neglecting new information, as required by Milton Friedman's rule for constant money growth. Generally, these discussions avoided the difficult issue about whether discretionary judgments would, on average, do better—whether the gains from discretionary action were less than the costs of errors.

Ben's main arguments are:

- (1) monetary aggregates are no longer related to output and prices;

(2) the monopoly power of the Federal Reserve "withers in its importance";

(3) even if the Federal Reserve wanted to control monetary aggregates, shifting patterns of intermediation have greatly complicated the task;

(4) other variables that have been proposed--the term structure of interest rates, the spread between various short-term market rates, or the ratio of nonfinancial debt to GDP—are also subject to (substantial) errors and at times have been misleading about the direction of change in economic activity; and

(5) it has not been possible for economists or central bankers to find regularities of "sufficient centrality and robustness to provide the . . . basis for sound policymaking."

Ben concludes that policymakers must make discretionary judgments based on a wide range of information variables. These judgments and interpretations of particular events must shift frequently. In Ben's words, "assuming that yesterday's answer is still right today is an invitation to error."

I agree that the problem is dynamic not static--change is always with us. That the pace of change has accelerated is a more doubtful proposition. Even if it is true, change and the uncertainties that change brings do not make the case for discretion. Changes can be *misinterpreted* by policymakers. They may react in a way that destabilizes the economy or that has long-run costs in excess of any short-term benefit. Information available to central bankers is rarely better than information available to market professionals. Each must decide whether changes are persistent or transitory, real or nominal and, given that revisions are often large relative to announced changes, whether the event actually occurred. These uncertainties open the possibility of large errors from the use of "information variables."

### **The case against discretion**

I begin with the case against discretion. Ben starts by quoting von

Clausewitz on rules for war and comparing monetary policy to war. The analogy overlooks a critical difference between war and economic policy. An objective in war is to confuse or mislead the enemy about your strategy, so rules or predictable behavior are undesirable. Objectives of economic policy such as stable growth and low inflation are more readily achieved if the public understands what the policymaker is doing and believes that past and prospective actions are related to the objectives. Generals want their enemies to be fooled; wise economic policymakers seek credibility by following predictable policies.

Two issues are not in dispute. First, research has not uncovered any single indicator or predictor that always correctly foreshadows future output and prices. No magic ratios have been found, and none is likely to be found. Second, many of the short-term relations between monetary aggregates (or other variables) and nominal output or prices change when there are changes in policy or technical changes in payments or financial systems.

These conclusions are neither new nor devastating for stabilizing monetary policy or for policy rules. We have no reason to expect a constant ratio of some monetary or debt aggregate to GDP. Economic theory implies that these ratios change with interest rates and possibly other variables as well as with financial innovation. The ratio of money to income should not be the same at interest rates of 20 percent in 1981 and 3 percent in 1993. Discretionary monetary policy decisions would be easier to make if monetary velocity were like the gravitational constant, or if the current and equilibrium real rates of interest were observable, or if large scale econometric models provided reliable forecasts, or if there was any way economists could consistently forecast the future with small errors. None of these is true, and none is likely to become true.

A main issue on which I disagree with Ben is whether the difficulties posed by the size of forecast errors and the changes in relations between economic variables imply that discretion will deliver better policy outcomes than an adaptive rule. An adaptive rule uses new information as it accrues but, need not, and I believe should not, rely on forecasts. It differs from a fixed growth rule that ignores new

information. There would be much less reason for an adaptive rule, or any rule, if the relations in the economy were fixed, unchanging, and subject to relatively small errors. One of the benefits of a known policy rule—predictable central bank behavior—is that it provides the public with more information about the future path of policy. In an uncertain world, knowing the conditional responses of policymakers removes some of the uncertainty faced by households and firms that plan ahead. Since this is particularly true for long-term plans, unchanging adaptive rules are beneficial. Rules contribute to credibility and formation of correct market anticipations, two subjects that are never mentioned in Ben's paper. Some research shows that a credible rule lowers the cost of achieving zero inflation.

The main purpose of policy rules is to guard against major policy errors. There may be, as I argue below, benefits from reducing the size of modest fluctuations by avoiding errors and reducing uncertainty about policy. The potential gains from this source, though real, are smaller than the gains from avoiding large policy errors. The Great Depression of the 1930s and the Great Inflation of the 1970s were costly results of such errors.<sup>1</sup> These errors were not the result of decisions by malign individuals determined to do harm. They were the result of decisions by well-intentioned individuals making discretionary policy decisions based on their beliefs, judgments, and interpretations.

It is too easy to dismiss these errors as past or even long past events. Would any central bank or government repeat these mistakes?

Recent experience gives no reason for comfort. Japanese policymakers in the second half of the 1980s changed from a credible policy of maintaining low inflation to an exchange rate target at a time of deregulation. The new policy financed the so-called bubble economy. The monetary base increased at a compound rate of 11.5 percent for the **three** years 1986-89. This was nearly double the growth rate of the previous three years. The stock of base money increased more than 38 percent in these three years.<sup>2</sup> By 1991, monetary base growth had fallen below 1 percent. Much of the excessive money growth went into asset markets in anticipation of higher inflation. When money growth fell, anticipations changed to disinflation or deflation, and

asset prices collapsed.

More recently, policymakers have repeated one of the costly mistakes of the 1930s. Member states of the European Community (EC) maintained an obviously misaligned exchange rate system despite unemployment rates above 10 percent in the United Kingdom, 11 percent in France and Italy, and 16 percent in Spain. Fortunately, speculators forced governments to accept the realignments that policymakers were unwilling to make.

The errors by European policymakers were mainly the result of mistaken beliefs and interpretations. Some of the errors repeat earlier mistakes—the unwillingness to abandon or adjust the gold standard in the 1930s or the Bretton Woods System in the 1960s and early 1970s. Misinterpretation of interest rates also played a role in at least two of these experiences—the depression and the collapse of Bretton Woods.

Typically, discretionary policy relies on forecasts. A study of forecast errors for real GNP growth in the principal developed economies shows that on average forecasters—using any of the currently available **methods**—cannot reliably distinguish a boom or recession one quarter or one year ahead. (Meltzer, 1987). Forecast errors for the widely used one-year-ahead economic growth forecasts made by the Congressional Budget Office (CBO) from 1977 to 1991 have a standard deviation equal to 44 percent of the average rate of growth. CBO publishes forecasts of consumer price inflation two years ahead. The standard error of forecast for this horizon is 26 percent of the average rate of inflation. Errors in administration forecasts for inflation at the two-year horizon for the same period are 29 percent of the average inflation rate and 57 percent for the average growth of real GDP.

The reported errors are not atypical, but they are large relative to the demands of discretionary policy. Even the comparatively low error for CBO's one-year-ahead forecast implies that it is difficult to distinguish between rapid growth and near recession one year ahead. For inflation two years ahead, the result is qualitatively similar. The best forecasters cannot reliably distinguish between rising and falling

inflation. The size of forecast errors provides a reason for large policy errors when policy is based on forecasts. Recall that discretionary policy in the United Kingdom during its recent deep recession was based on forecasts of a recovery that did not come until after the policy changed. That recession, and more certainly its depth and duration, was avoidable. These costs must be charged to the account of the policymakers.

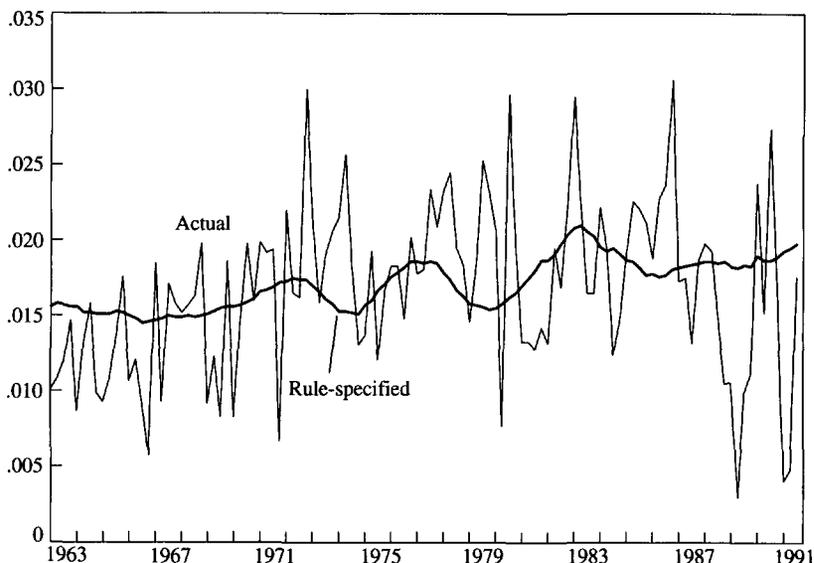
### **In favor of rules**

The case for a monetary rule does not rest solely on the difficulties inherent in discretionary policy. It is always possible that a rule would do worse. Recent work suggests this is not the case.

There are many possible rules, and much experimentation is needed to learn more about the properties of different rules. The particular rule I have chosen for illustration is a version of the adaptive rule I proposed at these meetings almost ten years ago. (Meltzer, 1984). The proposed rule maintains a zero average rate of inflation by setting the current quarterly growth rate of the St. Louis monetary base equal to the 12-quarter moving average of real GDP minus the 12-quarter moving average of base velocity. The first term adjusts for past changes in real growth, so it adjusts gradually for changes in the sustained changes in productivity growth and for recessions or rapid expansions. The second term adjusts gradually for changes in money holding, changes in payments systems and patterns of intermediation such as those discussed by Ben Friedman.

To show how a rule of this kind would have worked in an inflationary environment, I have to adjust for the inflation and disinflation that occurred. I regressed changes in the two moving averages, lagged one quarter, on the current growth rate of the base and used the estimated weights to compute the rule-specified value of base growth. These values are shown by the heavy line in Chart 1. The rule-specified values increase gradually over time and fluctuate within a narrow range as growth and base velocity change.

**Chart 1**  
**Base Growth Rule**  
**Quarterly 1963 - 1990**



Actual values below the line mean that monetary policy was "tight" relative to the rule, and values above the line mean that policy was easier than specified by the rule. I note that monetary policy was tight before the recessions of 1969-70, 1981-82, and 1989-90 and that policy remained tight during **parts** of these recessions. Policy was exceptionally easy or inflationary in 1967-68, during most of the 1970s, and in 1985-86. These periods were followed by higher inflation.

Chart 1 suggests that the rule identifies periods of overly expansive and overly contractive policy. In earlier work, **McCallum** (1990) shows that this was true also during the Great Depression of the 1930s. His rule differs from mine, but the differences are not great. Both adapt gradually to changes in the economy. Either rule would have prevented the Great Inflation and avoided the costly disinflation. If other major central banks adopted similar rules, the rule would provide a benefit for small countries and would reduce exchange rate variability.

Ben Friedman's paper comments repeatedly about the breakdown in the relation of money growth to nominal GDP growth. I have learned to be skeptical about results based on vector autoregressions. There are many competing results in the literature, and they seem to be sensitive to changes in specification.

Chart 2 tells a different story. The chart was prepared for the September 1992 meeting of the Shadow Open Market Committee. It makes a simple comparison between the annual growth rate of the domestic monetary base (the St. Louis monetary base minus estimates of foreign holding of domestic currency by the Board of Governors staff) and the annualized growth rate of nominal GDP (spending). The lag is longer than the one Ben used. The growth rate of the base is advanced six quarters to represent a six-quarter lag of nominal GDP growth behind domestic base growth. Three quarters have passed since the chart was drawn. The additional observations are shown by the broken line that extends the path for spending.

**Chart 2**  
**Growth Rate of Spending and Domestic Monetary Base (GDP)**

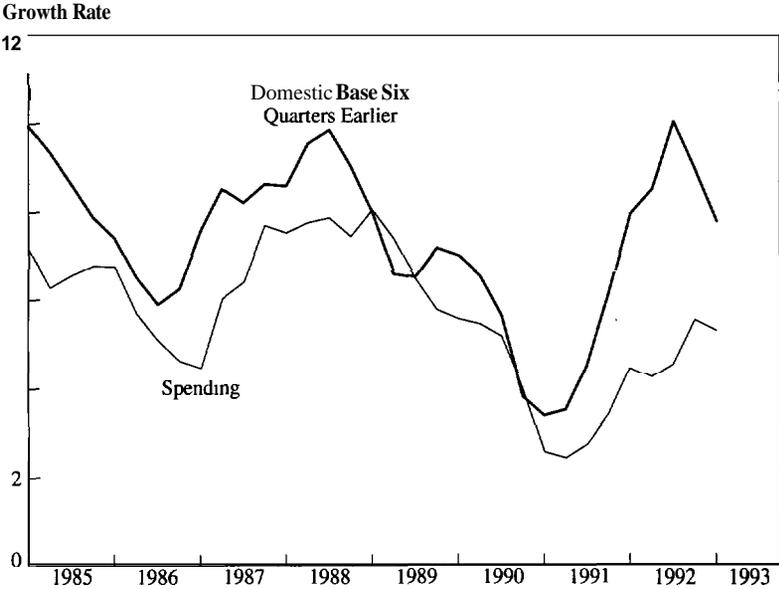


Chart 2 suggests that the growth of the domestic base has forecast turning points in nominal GDP since 1985 relatively well. I don't want to overstate the result. Simple relations of this kind are subject to change. This relation is not an adaptive rule. The lag in the relation has not been constant through the 1970s and earlier in the 1980s. The chart suggests, however, that since 1985 turning points in nominal GDP have followed turning points in the base with a six-quarter lag.<sup>3</sup> The chart denies a main claim in Ben Friedman's paper; the relation between growth of money and growth of nominal GDP has not disappeared.

### **Did the Federal Reserve follow a rule?**

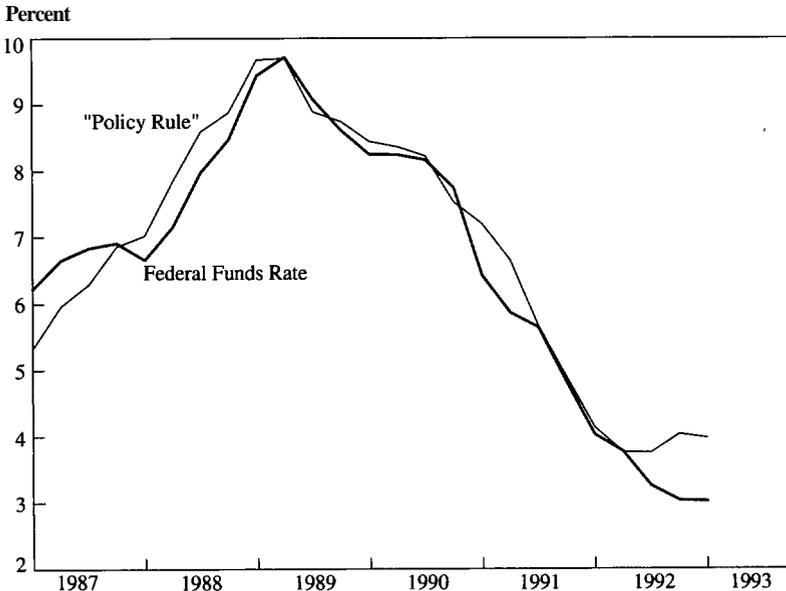
Advocacy of discretion is a throwback to an earlier era. For the past fifteen years, most academic discussion has recognized that the choice facing policymakers is not between rules and discretion but between different types of rules. See Kydland and Prescott (1977). The literature on policy credibility builds on this foundation.

Rules may be complex or simple. They may or may not rely on forecasts. To oppose rules is to favor unpredictable changes that cause the public to misperceive what policymakers do.

In a recent paper, John Taylor (1993) showed that a relatively simple rule described most of the Federal Reserve's actions to change the federal funds rate from 1987 to 1992. Taylor assumed that during these years, the Federal Reserve adjusted the federal funds rate in response to deviations of real GDP and inflation from the Fed's targets. He **used** 2 percent as the inflation target and the 1984-1992 trend of real GDP as the GDP target. Taylor weighted deviations of inflation and real output from target equally, although he recognized that this was an arbitrary choice.<sup>4</sup>

Chart 3 shows the actual federal funds rate and the rate given by the hypothetical rule. The Fed appears to have followed a consistent policy in this period; they behaved as if they followed a simple adaptive rule of the **type** suggested in some recent literature. The rule was not followed mechanically and the Fed appears to have changed weights or other behavior in 1992 by lowering the federal funds rate

**Chart 3**  
**The Federal Reserve's Policy Rule**



Source: Taylor(1993)

more than prescribed by the quasi rule. They have not returned to the rule in 1993.

Chart 3 makes clear that the recent abandonment of the M2 target is of little practical consequence. The Fed has rarely adjusted policy so as to achieve any of its announced monetary targets. As in earlier periods, the federal funds rate has been the principal instrument that the Federal Reserve used to set policy. (Brunner and Meltzer, 1964). Since the federal funds rate moved with output and inflation in a rule-like way, the policy outcomes of this period—rising inflation followed by recession—are attributable to that rule.

Chart I shows that monetary policy was too expansive from 1985 to 1987 and too restrictive from mid-1988 to the end of 1989. The St. Louis base rose at an average annual rate of 9.5 percent from second quarter 1985 to second quarter 1987 and by 4.2 percent from second quarter 1988 to the end of 1989. The rate given by the adaptive base rule for this period was between 6 and 7 percent. The excessive growth

in the earlier period contributed to rising inflation two years later, in 1987-89. The restrictive policy of 1988-89 contributed to the recession and slow growth of 1990-91. Since early 1990, base growth has been excessive again according to the rule summarized in Chart 1.

## Conclusion

Benjamin Friedman's argument for discretionary policy based on information variables, I believe, along step backward. The announced change in any variable is a mixture of known or anticipated and unanticipated movements. Policymakers like the rest of us, do not know what is news and what was anticipated, which movements will persist and which are transitory. Usually, we cannot separate permanent and transitory changes in real and nominal variables or real and nominal changes in prices, wages, interest rates, and many other variables. Information is subject to change when data are revised.

The Federal Reserve's recent decision to rely on real interest rates is subject to all of these problems. It is difficult, even after the event, to separate one-time price changes from persistent changes in the rate of price change, or to distinguish real and nominal effects on market interest rates, or to disentangle permanent and transitory changes in real interest rates. Basing policy decisions on movements of real interest rates will be no more successful than past attempts to use nominal interest rates as a guide.

A rule is nothing more than a systematic decision process that uses information in a consistent and predictable way. Several central banks have recognized what the academic research of the last twenty years has formalized. Some have adopted **medium-term** strategies to control inflation sometimes, as in Germany, using a monetary aggregate as an indicator. New **Zealand** has gone further toward an explicit rule for price stability with sanctions on the central bank governor to encourage successful implementation. Canada is perhaps somewhere between the two.

It is often said that monetary policy must choose between stable prices and stable exchange rates. For the past twenty years, we have had neither. If central banks are serious about protecting their curren-

cies from the inflationists in legislatures and governments, and seek to avoid the destabilizing shifts from excessive expansion to excessive contraction that contributed so much to the variability of, prices, exchange rates, and output in the 1970s and 1980s, more of them in the future will choose and announce an operational rule. They may choose one of the adaptive rules that have been proposed or a better rule that has not yet been devised. But they will move toward rule-like behavior, toward cooperation with markets instead of attempts to fool them.

The rule I proposed if adopted by major countries would provide reasonable price stability and enhanced exchange rate stability. It would offer smaller countries an opportunity to fix their exchange rates, if they choose, and import reasonable price stability. These public goods cannot be obtained by discretionary policy.

I will close with some remarks about the theme of this conference. It is an ancient theme, with antecedents as old as monetary economics. In the past thirty years, we have revisited the theme many times. Monetary policy was said to be undermined by intermediation, by growth of Euro-currency markets, by the "cashless" society, by credit cards, by deregulation, and now by securitization and by international capital flows. The list could be expanded.

None of these predictions came true. As long as there is a demand for base money and the central bank has a monopoly on production of base money, monetary policy will continue to affect output and prices. **Short-term** relations between money and other variables change, however. This is the message of the famous Lucas critique. Since we have little firm knowledge of these relationships, the fact that they change with innovations gives another reason for taking a longer-term focus, reducing the influence of short-term changes, and pursuing predictable medium-term strategies expressed as a rule. Surely this is better than pretending that policymakers have information or insight that they do not have and that neither they, nor we academics, can provide.

## Endnotes

<sup>1</sup>McCallum (1990) provides evidence on the gain from the use of an adaptive rule in the United States in the depression. The gain would have been greater if the same rule had been followed by many countries as proposed in Meltzer (1984, 1987).

<sup>2</sup>Data are for Reserve Money from IMF data base as reported in *International Economic Conditions*, Federal Reserve Bank of St. Louis, July 1992.

<sup>3</sup>Turning points in the growth rate of the base are not affected by subtracting foreign holdings of U.S. currency. The base growth rate is higher before adjustment.

<sup>4</sup>The rule is  $r = p + .5y + .5(p-2) + 2$  where  $p$  and  $y$  are respectively the rate of inflation over the past four quarters and the percent deviation of real GDP from its trend over 1984 to 1992. See Taylor (1993).

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