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# **Monetary Policy on the 75th Anniversary of the Federal Reserve System: Summary of a Conference Proceedings**

**T**HE FEDERAL RESERVE BANK OF ST. LOUIS held its fourteenth annual Economic Policy Conference on October 19-20, 1989. Nearly 75 years since November 16, 1914, when it and the other regional banks of the Federal Reserve System opened for business, the Bank chose this occasion to review the recent monetary policy experience in the United States. The papers and discussion below offer an overview of the conference proceedings that will be published later this year.<sup>1</sup>

## **FEDERAL RESERVE PERFORMANCE SINCE 1964: A CRITIQUE**

Allan H. Meltzer, University Professor and John M. Olin Professor of Political Economy at Carnegie Mellon University, presented the conference's main paper, a critique of Federal Reserve performance since 1964. Because extensive surveys by Friedman and Schwartz (1963) and

Brunner and Meltzer (1964) thoroughly examined the policy record of the System's first 50 years, Meltzer chose to analyze recent Federal Reserve performance. Overall, he argued that the Fed's performance has been poor and that whether the public has benefitted from the existence of the Federal Reserve System is questionable.

His reasons for this assessment were several. Perhaps foremost among these has been the Federal Open Market Committee's (FOMC's) focus on money market conditions and free reserves (member bank excess reserves minus member bank discount window borrowings) as indicators of monetary policy's restraint or stimulus. This focus, in the view of Meltzer and many others, inevitably translates into an objective for the federal funds rate that creates two systematic policy problems. The first problem is that short-term interest rates often give an incorrect view of monetary policy's thrust. For example, by interpreting rising nominal interest

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rates as an indication of "tight" monetary policy when, in fact, they merely reflect the inflationary consequences of excessive past money growth, the Fed gets a mistaken signal to ease; falling nominal interest rates provide the opposite (and still incorrect) signal to tighten monetary policy.

By reading market conditions incorrectly, Meltzer argued, the Fed's approach creates a second problem: procyclical patterns in money growth. To support his argument Meltzer cited several episodes when monetary policy was restrictive when viewed from a fed funds rate perspective, but expansionary when viewed from a money growth perspective. In Meltzer's view, these procyclical policy actions caused or contributed importantly both to the rising and permanent inflation of the last 25 years and to every recession of the postwar period.

Meltzer also argued that the FOMC's reliance on forecasts of future economic activity to implement current monetary policy has led to serious policy mistakes. The reason is that the forecast errors made by the Board of Governors' staff are so large that its analysis cannot distinguish whether in the current quarter the economy is in a boom or a recession. Moreover, the forecasts appear to be biased, consistently underestimating future inflation. This is not to say, as Meltzer was careful to note, that the Board staff's forecasts demonstrate inferior performance on its part; to the contrary, many studies have shown these forecasts to be at least as accurate as any available alternative. Instead, even if the Board's forecasts reflect the highest standards of the economics profession, the wide range of forecast errors can mislead policy-makers into making policy changes in the wrong direction.

Among other criticisms of Federal Reserve performance discussed by Meltzer are vague and changing policy statements that confuse market participants about the course of policy, mistakes associated with implementation of the FOMC's "monetarist experiment" of 1979-82 and the return to an interest rate objective for policy since 1982 disguised as an objective for borrowings from the discount window.

To improve future Federal Reserve performance, Meltzer advocates the adoption of a rule for monetary policy with explicit targets for growth of the monetary base. Should these targets be missed, the Board would be required to explain the reasons for its failure to achieve

them. In another change from the current structure, the President would be given the option of accepting the Board's explanation or requiring the resignation of the members.

### *Comments on Meltzer's Overview*

Because Meltzer's paper covered a broad range of topics, three discussants were asked to comment on specific pieces of his analysis. Jeffrey A. Miron, University of Michigan, investigated whether the Federal Reserve has contributed to economic stability by reviewing a consistent data set since 1870. Over intervals of 10 years or longer, Miron's analysis concluded that real economic growth has been nearly a full percentage point lower in the post-World War II period compared with 1870-1913; even more striking was the contrast of price stability (actually, a slight average annual decline in the price level) in the period before 1913 with the 4.4 percent average annual inflation rate since 1947. Finally, comparisons of standard deviations showed little change in the variability of output over time. Overall, Miron's analysis supported Meltzer's arguments about monetary policy actions causing the extended peacetime inflation, but contradicted the argument that the Federal Reserve had reduced output variability significantly. Miron argued, however, that finding the Fed to be associated with only small reductions in output variability should not be surprising since its emphasis has been on smoothing financial market conditions (interest rates) in ways and at times that often exacerbate output variations.

K. Alec Chrystal, City University of London, then made comparisons between monetary policy in the United States and the policies implemented by the world's other major central banks. He argued that Switzerland, West Germany and Japan, by adhering to monetary targets in most years, have been able to achieve reasonable price stability. Moreover, when external pressures on exchange rates induced these central banks to abandon their money growth targets, the cost was higher inflation in subsequent years. Chrystal also was critical of efforts by the Federal Reserve and foreign central banks to influence exchange rates through intervention activities because, in his view, it added considerable uncertainty about the thrust of monetary policy and economic performance in the future. Finally, he argued that the financial system in the United States undoubtedly would be more stable if geographic restrictions

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A Conference Sponsored by the  
Federal Reserve Bank of St. Louis

October 19-20, 1989

- SESSION I. *An Overview of Federal Reserve Performance*
- "The Federal Reserve at Seventy-Five"  
Allan H. Meltzer, Carnegie Mellon University
- "Has the Fed Made a Difference? A Comparison of Pre- and Post-1914 Conditions"  
Jeffrey A. Miron, University of Michigan and NBER
- "The Behavior of Foreign Central Banks: Comparisons and Contrasts with Fed Performance"  
K. Alec Chrystal, The City University of London
- "The Federal Reserve Policy Process"  
Donald L. Kohn, Board of Governors of the Federal Reserve System
- SESSION II. *Monetary Policy Objectives*
- "Why Does the Fed Smooth Interest Rates?"  
Alex Cukierman, Tel Aviv University and Princeton University
- Comment by Michelle R. Garfinkel, Federal Reserve Bank of St. Louis
- "Precommitment to Rules in Monetary Policy"  
Edmund S. Phelps, Columbia University
- Comment by Manfred J.M. Neumann, University of Bonn
- SESSION III. *Money Stock Measurement And The Effect Of Money On Real Activity*
- "Monitoring Monetary Aggregates under Risk Aversion"  
William A. Barnett, University of Texas at Austin
- Comment by Julio J. Rotemberg, Massachusetts Institute of Technology
- "Money and Business Cycles: A Real Business Cycle Interpretation"  
Charles I. Plosser, University of Rochester and NBER
- Comment by N. Gregory Mankiw, Harvard University and NBER

on banking were removed. The primary argument against this sort of change, however, was that a different microeconomic banking structure could have important influences on the macroeconomic relationships of monetary policy (e.g. velocity growth). Although he did not offer an explicit answer to this question, Chrystal emphasized the importance of recognizing trade-offs between micro-efficiency gains in banking and (perhaps) greater ambiguity about the macro effects of central bank policies.

Donald L. Kohn, director of the Division of Monetary Affairs at the Board of Governors of the Federal Reserve System, was asked to present the Board's view of its performance. Kohn acknowledged that difficulties in distinguishing between real and nominal interest rates (among other factors) created operational problems for a policy procedure based on nominal interest rates. Moreover, Kohn recognized that these difficulties—and the accelerating rate of inflation they produced in the late 1970s—led to the

adoption of a money stock target for policy that, in his mind, was quite similar to the proposal made at the end of Meltzer's paper. But, Kohn recalled, this procedure failed as well, perhaps suggesting that the implementation of monetary policy in practice is different from that in theory.

Kohn explained why the money stock targets were abandoned as a guide to policy in 1982 by listing well-known arguments: the impact of financial innovations, especially nationwide introduction of NOW accounts, on M1; the increasing interest elasticity of M1; the abrupt shift in the trend growth rate of velocity. Although Kohn did not make the case directly, he implied that many of these problems might have been expected because the monetarist arguments for money stock targets were based on empirical regularities rather than an underlying structural theory of how monetary policy affects economic activity. Meltzer's discussion of targeting the monetary base also was rejected for the instability in its velocity and the belief (based on a simulation experiment by the Board staff) that it would produce unacceptably large variations in interest rates.

Kohn ended his discussion by summarizing the current policy process adopted by the FOMC. He noted that the Committee's members monitor the economy's performance by using a variety of indicators and that both interest rates and exchange rates receive considerable attention as variables that transmit policy actions to the economy; the monetary aggregates continue to receive some attention as well but more in terms of long-run economic performance. Current procedures lead to frequent, small adjustments in the thrust of policy to achieve the Committee's stated goal of promoting economic expansion through price stability.

### A POSITIVE THEORY OF FEDERAL RESERVE BEHAVIOR

Having debated the successes and failures of actual Federal Reserve behavior in the first session, Alex Cukierman, Tel Aviv University, attempted to explain *why* the Fed had chosen to behave in a particular manner. Specifically, he tried to answer the question: "Why Does the Fed Smooth Interest Rates?"

Cukierman constructed a choice-theoretic model of Fed behavior in which the Fed was concerned both with price stability and financial

market stability as policy objectives. In his model, changes in bank profits affect financial stability by altering the risks of bank failures; moreover, bank profits are assumed to be negatively correlated with interest rates. These relationships provide the intuitive result that the Fed will focus relatively more on price stability when bank profits are high (and the risk of bank failures is low) and more on financial stability when bank profits are low (and the risk of failures is high). In practice, this systematic switching between the two goals of monetary policy leads to interest rate smoothing and that such a policy of interest rate smoothing has an inflationary bias. Finally, he noted that his theoretical model is consistent with changes in interest rate behavior after the founding of the Fed reported by Mankiw, Miron and Weil (1987).

In commenting on Cukierman's analysis, Michelle R. Garfinkel, Federal Reserve Bank of St. Louis, chose to focus on ambiguities in the definition of "financial stability" and the Federal Reserve's objective function that could affect Cukierman's qualitative results. For example, she questioned whether maximizing bank profits was a socially desirable objective for monetary policy in the context of the model. Moreover, she argued that the Fed might have two policy instruments (e.g., reserve requirements and the growth of reserves) to achieve two of its objectives; in this event, the tradeoff between price stability and financial stability implied by Cukierman need not exist. Garfinkel also argued that Cukierman's particular choice of a one-shot Nash equilibrium was responsible for the inflationary bias in his model and that choosing another equilibrium could eliminate this feature of his analysis. She then presented an alternative model in which the Fed could achieve its goal of financial stability while simultaneously reducing the inflationary bias.

### LIMITING DISCRETION AND ACHIEVING PRICE STABILITY

Following this positive discussion of why the Fed has chosen to adopt various policies and practices, Edmund S. Phelps, McVickar Professor of Political Economy at Columbia University, addressed two normative aspects of central bank behavior: Should its discretion be limited by a policy rule and should price stability be its primary (if not sole) objective? The focus of this broad topic was narrowed and made more relevant to the actual policy process by limiting the

discussion to a group of concrete proposals that have been offered to limit the Fed's discretion and achieve price stability. The proposals reviewed included those by Hall (1984), McCallum (1988), Meltzer (1984), and Melzer (1987).

Phelps raised several criticisms with the general notion of policy rules to achieve price stability. Perhaps most relevant to the experience of the 1980s is that the growth rate of velocity must be trend-stationary. If not, shocks to velocity may carry it far from its trend path without eventually returning to it. Under these circumstances, the targeted ranges for the monetary base or some monetary aggregate would have to be revised occasionally to account for shocks to its behavior. But, in Phelps' view, this reasonable response to dealing with actual shocks would, in reality, give a central bank convenient excuses for missing its announced targets; eventually, the potential to offer *ex post* explanations for target misses would remove credibility from the rule and render it ineffective as a constraint on policy discretion.

Another criticism of a rule such as that proposed by McCallum is that greater stability in the growth of, say, the monetary base, can be expected to be associated with greater volatility in other variables; of particular concern to Phelps in this regard were the CPI and employment. Sluggish adjustment of wages, for example, could exacerbate the negative employment effects of a supply shock if the mechanics of a policy rule did not permit some monetary accommodation of the shock. Phelps also raised the important issue of defining "price stability" precisely as (1) a constant inflation rate, (2) a constant aggregate price level or (3) limiting the variability of the price level within some narrow band. Finally, he was concerned about the unknown, but potentially large, start-up costs as the transition was made from discretionary policies to the implementation of the rule.

Manfred J.M. Neumann, University of Bonn, criticized Phelps for not providing a clear framework to evaluate each rule's operating characteristics relative to its final goals. Neumann analyzed whether several proposed rules could respond to current shocks, changes in trend velocity or output shocks and whether any of them would guarantee an expected inflation

rate equal to zero. Against these criteria, Neumann found that only Meltzer's (1984) proposal was consistent with each standard.

Neumann, however, questioned the need for a coercive rule when, instead, better monetary policy performance might be achieved from a monetary constitution that creates "the ultra-conservative central banker." This constitution would free the central bank from responsibility for supporting the government's output, employment or exchange rate policies and leave it free to concentrate only on price stability. Moreover, the people making monetary policy would serve for long terms and be paid salaries comparable to those in the private sector. These features (and several others) would create a central bank truly independent from political pressures, a condition that in Neumann's view is crucial for the achievement of price stability.

#### MEASUREMENT OF THE U.S. MONEY STOCK

Like most activities, conducting monetary policy generally will produce results that are above or below the desired objective if the wrong phenomenon is being analyzed. Thus, while many observers have commented on the "anomalous" behavior of M1 and its velocity in the 1980s, another viewpoint argues that their "unusual" behavior stems from the fact that the monetary aggregates, as currently constructed and reported, do not measure the theoretical concept that we call "money." William A. Barnett, University of Texas at Austin, reported the results of his continuing attempt to construct a monetary aggregate consistent with microtheoretic foundations.<sup>2</sup>

Barnett's previous investigations of the characteristics of a desirable monetary index number assumed risk-neutrality on the part of individuals. In this conference paper, he considered the consequences of incorporating risk aversion, an issue that had been raised in work by Poterba and Rotemberg (1987). In his extended framework, Barnett argued that an aggregate monetary variable has to be derived from a four-step process consisting of checks for admissibility, approximation, monitoring and application. These steps determine which assets can be grouped to form an aggregate, how the

<sup>2</sup>Barnett's paper was co-authored with Melvin Hinich, University of Texas at Austin and Piyu Yue, visiting scholar at the Federal Reserve Bank of St. Louis.

individual assets will be weighted within the aggregate, how closely the resulting index tracks the theoretically ideal measure and how well the aggregate performs in its final use.

After deriving and applying the microeconomic and index number principles consistent with these guidelines, Barnett advocated the use of a monetary measure that he calls "Theoretic M2." He then demonstrated that large empirical differences exist between the theoretic aggregates and the official simple-sum aggregates reported by the Federal Reserve. He also found differences, although much smaller, between Divisia aggregates constructed under the assumption of risk neutrality and the theoretic aggregates that allowed for risk aversion. Barnett concluded that the Federal Reserve should abandon its simple-sum measures of the money stock and construct new measures following the statistical practices of the Bureau of Labor Statistics and other government agencies.

Although generally in agreement with Barnett's argument, Julio J. Rotemberg, Massachusetts Institute of Technology, raised several issues regarding Barnett's strategy. For example, he suggested a revision in weighting the dollar values of individual asset categories when constructing an aggregate monetary variable. Rather than using  $r^b - r_i^i$ , the difference between the interest rate on a benchmark asset (one that yields no liquidity services) and the  $i^{\text{th}}$  asset's own rate of return at some base period,

Rotemberg suggested using  $(\frac{r_i^b - r_i^i}{r_i^b})$ .

This revised measure has the advantage that sensitivity to choice of a base period is eliminated and the addition of new assets to the aggregate is a straightforward operation, should that become necessary. Perhaps more important, however, is that a model with risk aversion will include some measure of *expected* returns, which will introduce errors into the measurement of any aggregate. But while an error in a Divisia aggregate will persist forever, the error will appear only in the period it occurs in Rotemberg's "currency equivalent" (CE) measure. Rotemberg also suggested that a different benchmark rate of return should be used (stock market returns rather than the yield on a long bond) and that further testing is required to determine which assets legitimately can be aggregated as a group (rather than merely re-weighting the Board's official groupings called M1, M2, etc.). In his reply to Rotemberg's comments, Barnett demonstrated

that Rotemberg's suggested revisions to his currency-equivalent index do indeed produce a measure of the economic stock of money.

## DOES MONETARY POLICY REALLY MATTER?

The real business cycle approach to economic fluctuations raises the question of whether monetary policy has any significant effect on real economic activity. While most economists acknowledge the primary, if not exclusive, relationship between changes in the nominal quantity of money and changes in the aggregate price level, establishing a link between nominal money and the business cycle has long been debated by macroeconomists. Charles I. Plosser, University of Rochester, examined this issue; his conclusion was that explanations of variations in real economic activity should focus on shocks to "tastes and technology" rather than on changes in the money stock.

Plosser first surveyed prominent studies that attribute an important role to the money stock for explaining fluctuations in real output. Primary among these references are those by Friedman and Schwartz (1963) and Romer and Romer (1989) who identify explicit business cycles and discuss the monetary policy changes that coincide with them. Plosser noted that, while several of the important episodes clearly reflected changes in monetary policy, these policy changes were "real" as opposed to "nominal" ones. That is, rather than a change in the nominal money stock (as one often thinks of a monetary policy change), these episodes often involved adjustments in reserve requirements, which are better classified as real changes that affect relative prices and, in turn, induce reallocations of resources. Thus, Plosser argues, while previous authors may have been correct to attribute a particular business cycle movement to a monetary policy change, they were wrong to conclude that the causal factor was a change in the nominal stock of money. Instead, in his view, it was a real change (such as a change in reserve requirements) that was the cause of the economic fluctuation.

Plosser supported his argument by examining correlations of the components of M1 and M2 (the source base, the reserve adjustment magnitude (RAM) and the appropriate multiplier) and various deposit to currency ratios with the

growth of real output to see whether real or nominal aspects of monetary policy changes were more closely related to output growth. In these simple correlations, as well as more elaborate VAR results, Plosser found the evidence generally to be consistent with his view that changes in the nominal quantity of money alone have had relatively minor effects on real economic activity.

In his comments on Plosser's paper, N. Gregory Mankiw, Harvard University, generally agreed with Plosser's specific conclusion that it is difficult to find a significant correlation between changes in nominal money and real output. However, Mankiw disagreed with Plosser's overall conclusion that money is neutral even in the short run. Mankiw argued that, even if the Fed were not the cause of fluctuations in output, monetary policy still could be very important to how the economy reacts to an exogenous real shock. For example, if shocks to technology caused output fluctuations, monetary policy may be able to help the economy adjust to this new output path and avert even larger declines in output. Mankiw also disagreed with Plosser's criticisms of theories that attempt to explain why changes in money may affect output. Mankiw argued that, while perhaps correct in his comments on specific theories, Plosser had overlooked a more fundamental issue—because no economic theory is “complete,” a combination of different theories may be necessary to explain real world phenomena. Because the real world is “messy,” then perhaps, in Mankiw's view, economic reasoning will inevitably be messy as well.

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