New Challenges for Monetary Policy: A Summary of the Bank's 1999 Symposium

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After two decades of successfully restoring price stability in much of the world economy, central banks begin the next millennium facing a new set of challenges. One key task is how to conduct monetary policy in an era of price stability. Clearly, policy-makers would like inflation to remain subdued. But, how should monetary policy procedures be designed to ensure that inflation does not reappear as a serious policy problem? Another important question is whether central banks enjoy greater operational flexibility or face new constraints in an environment of low inflation. On the one hand, operating in a low-inflation environment may give central banks greater leeway to address short-run economic problems without compromising long-run price stability. On the other hand, monetary policy implementation may become more difficult as nominal interest rates approach zero. Recent crises in financial markets around the world pose an additional set of challenges for policy-makers. Indeed, preserving global financial stability and dealing with extreme asset price and exchange rate movements have taken on greater urgency in many recent policy discussions.

To explore the implications of these issues, the Federal Reserve Bank of Kansas City held a symposium titled "New Challenges for Monetary Policy" at Jackson Hole, Wyoming, on August 26-28, 1999. The symposium brought together a crosssection of distinguished experts from central banks, academic institutions, and financial markets from around the world.

This article highlights the principal issues raised at the symposium and summarizes the papers presented and the commentary. The first section of the article provides an overview of the main issues and identifies areas of agreement and disagreement among program participants. The remaining sections summarize the viewpoints of the participants and their policy recommendations.

Symposium highlights

Much of the discussion at the symposium focused on three main issues: the operation of monetary policy in a low-inflation environment, the relationship between asset prices and monetary policy, and the choice of an exchange rate system. While there was considerable consensus among participants on each of these issues, there were also some significant areas of disagreement.

On the issue of monetary policy in a low-inflation environment, all participants agreed that success in maintaining low inflation required central banks to maintain a credible commitment to price stability. There was less unanimity, however, on how to accomplish this goal. One area where differences emerged was the appropriate definition of price stability. Although most participants favored defining price stability in terms of an inflation rate, there was some support for looking more closely at the advantages of price- level targeting rather than inflation-rate targeting. Participants also debated how inflation targets should be defined. Generally speaking, those advocating inflation targets above zero justified their position by citing measurement errors in inflation indexes and possible constraints on monetary policy in a low-inflation environment, principally, downward nominal wage rigidity and a zero bound on nominal interest rates. Participants who found these arguments unconvincing preferred an inflation target set at zero.

There was also considerable discussion, and disagreement, on how monetary policy should be implemented in a low-inflation environment. Important issues raised included: what information policy-makers should respond to in altering the stance of policy, the short-run trade-off between inflation variability and output variability, whether policy should be pre-emptive, and the relative merits of rule-based vs. discretionary policy adjustments. Participants also debated whether a "liquidity trap" could limit the ability of a central bank to conduct monetary policy in a low-inflation environment. Thus, in the case of Japan, where short-term nominal interest rates are currently near zero, some participants felt there was little scope for traditional monetary policy measures in stimulating the economy. Others argued that adjustment mechanisms did exist so that monetary policy could continue to be effective in this situation.

The second main issue discussed at the symposium was the role of asset prices in monetary policy. In his opening remarks, Federal Reserve Chairman Alan Greenspan emphasized the increasing importance of this issue to policy-makers and stressed the need for a better understanding of asset price determination and the connection of asset prices to macroeconomic performance. Much of the subsequent discussion centered on three questions: how to interpret asset price movements, how asset prices are related to the economy, and whether monetary policy should respond to asset price movements.

Symposium participants noted the interpretation of asset price changes was complicated because of problems in accurately measuring earnings and difficulties in distinguishing asset price movements driven by economic fundamentals from asset price bubbles. There was also general agreement that further research was necessary to identify the channels by which asset price changes are transmitted to the real economy and to determine the quantitative importance of these effects.

There was less agreement, however, over how monetary policy should respond to asset price movements. While most participants accepted the proposition that central banks should respond to asset price movements that have clear implications for inflation, some would not rule out the need for reacting to asset price bubbles. Indeed, several participants noted the need for monetary policy to react swiftly to sharp downward movements in asset prices regardless of cause. Others felt that stability might be enhanced if monetary policy could help prevent these bubbles from developing in the first place.

The third main topic of the symposium was the choice of an exchange rate system. Much of this discussion focused on recent financial and exchange rate crises in emerging market economies in Asia, Latin America, and Central Europe. Participants agreed that preventing future crises required more than choosing a good exchange rate system. To be successful, countries also needed to adopt sound budgetary policies and develop a strong banking and financial infrastructure.

Considerable disagreement emerged over the actual choice of an exchange rate regime, however. Indeed, in this year's symposium, there was somewhat more polarization of views than in the recent past. Some participants favored flexible exchange rate systems, arguing that flexible systems provide greater scope for adjustment to external shocks and avoid the credibility issues that plague fixed-rate systems. At the same time, reflecting the difficulties experienced by many countries in recent years, there was little support for traditional fixed-rate systems or adjustable pegs. Rather, the chief alternatives to flexible rate systems were more rigid systems, such as currency boards, dollarization, and full monetary union.

First day sessions

The first day of the symposium consisted of five sessions, beginning with opening remarks by Federal Reserve Chairman Alan Greenspan. In the second session, Mervyn King presented a paper titled "Challenges for Monetary Policy: New and Old" with discussion by John Taylor. In the third session, Ben Bernanke and Mark Gertler presented a paper, "Monetary Policy and Asset Price Volatility," with discussion by Rudiger Dornbusch. The fourth session consisted of a panel of central bank officials discussing "Practical Experience Dealing with Asset Bubbles and Financial Crises." Representatives on the panel were Arminio Fraga (Brazil), Josef Tosovsky (Czech Republic), and Yutaka Yamaguchi (Japan). The final session of the first day proceedings was a luncheon address prepared by Willem Duisenberg titled "European Monetary Union–The Challenges Ahead."

Opening Remarks

In his introductory remarks, Alan Greenspan focused on the issue of asset prices and macroeconomic performance. He noted that, as the value of assets and liabilities rises relative to income, the economy may exhibit larger and more abrupt responses to changes in the balance sheets of households and firms. Consequently, central bankers should have a better understanding of how asset prices are determined and how changes in asset prices affect economic activity.

According to Greenspan, difficulties in measuring current earnings in an environment of rapid technological change complicate the interpretation of asset price changes. In addition, the process of discounting future earnings streams and the relationship between perceptions of risk and asset prices are not well understood.

Greenspan also called for further research into the channels by which asset prices affect macroeconomic activity. He noted there is a need for a greater understanding of the mechanism through which changes in wealth affect consumer and business spending. In addition, current macromodels used for forecasting have difficulty incorporating the effect of large and episodic changes in asset prices on economic activity. Thus, according to Greenspan, "We no longer have the luxury to look primarily to the flow of goods and services, as conventionally measured, when evaluating the macroeconomic environment in which monetary policy must function."

Challenges for Monetary Policy: New and Old

In his paper, Mervyn King identified a number of important challenges to monetary policy at the turn of the millennium. Important issues raised by King included: the optimal inflation target, the scope for reducing short-run output variability, price-level vs. inflation-rate targeting, and the operation of monetary policy in a low-inflation environment.

On the choice of an inflation target, King indicated that possible downward wage and price rigidity or a zero bound on nominal interest rates did not, in his opinion, justify setting inflation targets above the ranges currently set by central banks. In addition, while acknowledging the existence of a short-run trade-off between inflation variability and output variability, King was skeptical that this trade-off could be exploited without compromising the long-run goal of price stability. King also suggested that it might be appropriate to revisit the idea of price-level targeting. In particular, he thought a modified form of price-level targeting or average inflation-rate targeting in which the price level is stabilized around a trend might have desirable properties and be more palatable than a strict price-level target.

On the operation of monetary policy in a low-inflation environment, King was skeptical that a zero bound on nominal interest rates would be a significant constraint on policy. He noted some evidence from model simulations that suggests that policy-makers might be able to reduce the likelihood that rates would hit zero if they responded more aggressively to shocks. In addition, he felt that, while monetary policy might be more complicated in this environment, it is unlikely to be impotent because of the existence of alternative adjustment mechanisms.

In his discussion of King's paper, John Taylor highlighted two important stylized facts about the U.S. economy in recent years. First, greater price stability has been associated with greater output stability. Second, recent research supports the view that the Federal Reserve and other central banks have increased the responsiveness of monetary policy to swings in inflation and output. Despite these observations, Taylor was uncomfortable with King's suggestion that policy be even more aggressive in a low-inflation environment. Taylor pointed out that this result did not appear to be particularly robust to alternative model specifications. In addition, while he agreed that uncertainty about estimates of potential output implied placing less weight on the output gap in policy reaction functions, he argued that the weight on output should not be zero.

As to future items on central bank research agendas, Taylor agreed with King that it might be appropriate for policy-makers to examine the merits of price-level targeting. However, Taylor also emphasized the need to bridge the existing gap between the literature on simple policy rules and the actual operations of central banks.

Monetary Policy and Asset Price Volatility

In their paper, Ben Bernanke and Mark Gertler examined the role that asset prices should play in monetary policy. They concentrated on three issues: why policy-makers should care about asset price volatility, how asset price volatility affects the economy, and how monetary policy should respond to changes in asset prices.

To address these issues, Bernanke and Gertler developed a version of a dynamic new Keynesian model with two important features: an exogenous asset price bubble mechanism and a financial accelerator in which changes in the balance sheet condition of firms affect the cost of credit. They used the model to examine the consequences of a central bank targeting both asset prices and inflation. The authors also presented empirical work for the United States and Japan to determine whether central banks have responded to asset prices in an appropriate manner.

Based on the analysis of this model, Bernanke and Gertler argued that monetary policy should not respond to asset prices unless asset price changes have implications for expected inflation. Moreover, according to the model, if central banks are not sufficiently aggressive in reacting to inflationary pressures, adding a response to asset price bubbles may be particularly dangerous. In their empirical work, the authors find evidence that the Federal Reserve has reacted in a strongly preemptive way to inflation with no independent response to asset prices. In contrast, they find fault with the Bank of Japan's response to inflation and asset prices during the 1980s and 1990s. In the final part of the paper, the authors discuss the possible extension of this framework to a small open economy. They argue that fixed exchange rates are very undesirable in an economy with a weak financial system. Thus, they advocate the use of flexible inflation targeting combined with flexible exchange rates in these circumstances.

In his commentary on the Bernanke-Gertler paper, Rudiger Dornbusch emphasized two issues, the specification of the basic model and the choice of an exchange rate system. Dornbusch found some of the model's results puzzling, especially the larger inflation variability when the central bank responds to asset prices. He noted that some of the model's properties may depend on the way that asset bubbles are introduced into the model. The specification is asymmetrical in that investors can identify bubbles while lenders cannot. Dornbusch also felt that the model needed to include aspects of credit rationing to account for the asymmetries that result from an abrupt collapse in asset prices.

On the choice of an exchange rate system, Dornbusch strongly disagreed with Bernanke and Gertler that flexible exchange rates are appropriate for emerging market economies. Instead, he argued that eliminating the central bank and substituting a currency board would be a better way to establish policy credibility.

Practical Experiences Dealing with Asset Bubbles and Financial Crises

A somewhat different perspective on asset bubbles and financial crises came from a panel of central bankers who described recent experiences in Brazil, the Czech Republic, and Japan. While reinforcing many of the basic policy principles discussed in the previous sessions, these presentations highlighted many of the practical difficulties of implementing monetary policy in an uncertain financial environment.

In the first panel presentation, Arminio Fraga described the origins of the recent financial and exchange rate crisis in Brazil and outlined the policy actions taken in response to the crisis. According to Fraga, a combination of domestic and international factors put the fixed exchange rate system under pressure and ultimately forced abandonment of the peg to the dollar. The key issue, going forward, was how to re-establish credibility in the exchange rate system. The decision was made to go to a floating rate system combined with a commitment to a formal system of inflation targeting and greater monetary policy transparency. Important structural reforms also occurred, including a dramatic change in the government's fiscal position and financial market restructuring. Fraga also cited the role of support from the IMF and international lenders in stabilizing financial markets and helping build credibility for the new policy regime.

The second panel presentation, by Josef Tosovsky, focused on asset bubbles in the Czech Republic and other transitional economies. Tosovsky identified some general features of transitional economies and particular aspects of the Czech experience that made the transition to a market economy more prone to asset bubbles and financial crises. Tosovsky suggested that the transition to a market economy typically requires large structural adjustments in the economy, which are difficult to accomplish with embryonic markets for goods and financial assets. Since prices for goods and financial assets may not reflect fundamental values, resource allocation is impaired, and it may be particularly difficult to distinguish bubbles from large structural adjustments during the transition period. Moreover, although trade liberalization may provide important benefits, it may also increase vulnerability to foreign financial flows and exacerbate domestic cycles. As to the Czech experience, Tosovsky indicated that both the privatization scheme and the greater openness of the economy had complicated the adjustment process and contributed to the poor performance of the Czech economy in recent years.

The final panel presentation, by Yutaka Yamaguchi, focused on the relationship between asset markets swings and the poor performance of the Japanese economy in recent years. In particular, Yamaguchi discussed whether a more pre-emptive tightening of monetary policy in the 1980s might have prevented the asset price bubble in Japan and led to better economic performance. According to Yamaguchi, it is not clear that a pre-emptive tightening was a practical possibility. He noted that inflationary pressures were very late in developing and it would have been difficult to tighten policy without clear signs that inflation was picking up. Indeed, the Bank of Japan did tighten policy when inflation started to rise. He also noted that tighter policy would have been inconsistent with the view at the time among the G-7 countries that low interest rates in Japan were necessary for global stability after the 1987 stock market collapse. Yamaguchi also questioned whether a more aggressive tightening would have been successful in breaking the bubble without risking the danger of a financial collapse. He also indicated that some of the structural problems in real estate markets would not have been solved by monetary policy, but rather by different regulatory and supervisory policies.

Luncheon Address

Willem Duisenberg, in his luncheon address, focused on the challenges facing the European Central Bank (ECB) as it completes its first year of operation. While high unemployment is currently Europe's most pressing problem, Duisenberg emphasized that reducing unemployment requires structural reforms rather than a monetary policy adjustment. As to monetary policy challenges, Duisenberg identified the need to maintain a strong commitment to price stability. He also noted some unique challenges associated with the creation of the ECB. One task is to develop a better understanding of the economic structure of the Economic and Monetary Union in Europe, including both indicators of economic activity and the monetary transmission mechanism. Another task is to develop an effective communication strategy to convey monetary policy information to the public in the euro area. A final challenge, going forward, is how to integrate additional countries into the economic and monetary union.

Second day sessions

The second day of the symposium consisted of three sessions. In the first session, Lars Svensson presented a paper titled "How Should Monetary Policy Be Conducted in an Era of Price Stability?" with commentary by Alan Meltzer and Michael Woodford. In the second session, Barry Eichengreen and Ricardo Hausmann presented their paper, "Exchange Rates and Financial Fragility," with discussion by Martin Feldstein. In the final session of the symposium, Andrew Crockett, Stanley Fischer, and Jacob Frenkel provided an overview and summary of the main issues raised at the symposium.

How Should Monetary Policy Be Conducted in an Era of Price Stability?

In his presentation, Lars Svensson examined a number of operational issues faced by central banks in a low-inflation environment. One issue is how to define price stability. Like Mervyn King, Svensson felt that price-level targeting deserves more serious consideration as a potential substitute for inflation targeting. Svensson also compared the relative merits of conducting monetary policy via simple rules, inflation forecast targeting, and monetary targeting. He concluded that inflation forecast targeting is a superior way for central banks to maintain price stability.

Svensson also discussed the role of credibility in monetary policy and appropriate policy in the presence of low interest rates and a possible liquidity trap. According to Svensson, policy credibility can improve the trade-off among inflation variability, output gap variability, and instrument variability, and may diminish the need for activism on the part of the central bank. In addition, the potential for a liquidity trap can be reduced if a central bank pursues a transparent inflation-targeting system that incorporates a moderately positive inflation target. At the same time, he recommended development of contingency plans for situations in which a liquidity trap might arise. Since monetary policy is likely to be ineffective by itself in this situation, Svensson felt that fiscal and debt management policies are likely to assume greater importance.

In his comments on Svensson's paper, Alan Meltzer focused on whether, in theory or in practice, monetary policy is limited by a liquidity trap in a low-inflation environment. Meltzer pointed out that in models with multiple financial assets a liquidity trap need not exist even with short-term nominal interest rates near zero. Furthermore, in reviewing various episodes in U.S. monetary history, Meltzer found no evidence of the existence of a liquidity trap or the ineffectiveness of monetary policy in situations where nominal interest rates are near zero.

In his discussion of Svensson's paper, Michael Woodford emphasized the advantages of credible policy commitments that come from following a policy rule. He was critical of discretionary optimization by central banks and, especially, of the inflation-targeting framework proposed by Svensson. Woodford argued that discretion leads to suboptimal results relative to rule-based policy strategies. He did agree with Svensson about the merits of using a price-level target rather than an inflation target and provided additional reasons for why price-level targeting might have theoretical and practical advantages over inflation targeting.

Exchange Rates and Financial Fragility

In their session, Barry Eichengreen and Ricardo Hausmann examined the close connection between exchange rates and financial fragility and the appropriate choice of an exchange rate system. They summarized much of the analysis of recent financial/exchange rate crises in terms of three hypotheses about the underlying causes of these crises. The moral hazard hypothesis focuses on excessive risk-taking as the source of domestic and international financial fragility. The original sin hypothesis attributes fragility to incomplete financial markets, in particular, to situations in which a country cannot borrow abroad or borrow long term in its domestic currency. The commitment problem hypothesis traces fragility to underdeveloped financial markets and contractual/legal arrangements.

The first two hypotheses have clear implications for the choice of an exchange rate system. The moral hazard hypothesis suggests the use of flexible exchange rates, while the original sin hypothesis supports dollarization. The commitment problem hypothesis does not have clear implications for the choice of an exchange rate system.

To judge which hypothesis is best supported by the data, the authors examined the level and composition of capital flows and individual country case studies. They find the original sin hypothesis provides a better explanation for the data. Consequently, they suggest the best policy options for affected countries are to dollarize or to develop deeper financial markets and improved access to the international financial system.

In his comments on the Eichengreen-Hausmann paper, Martin Feldstein argued that most exchange rate crises were caused by fundamental structural policy errors. He identified three particularly important errors behind many of the recent financial/exchange rate crises: large current account deficits caused by overvalued fixed, but adjustable, exchange rates; mismatched balance sheets with short-term liabilities that exceed foreign exchange reserves; and weak banking supervision. Consequently, Feldstein advocated steps to solve these problems including adopting flexible exchange rates and increasing international liquidity. He was critical of dollarization as a potential solution for emerging market economies, arguing that Eichengreen and Hausmann had overstated the advantages and understated the disadvantages of this approach.

Overview Panel

Andrew Crockett, Stanley Fischer, and Jacob Frenkel participated in the final session. They summarized the main points made during the symposium and offered their own perspectives on the key policy issues.

In reflecting on the discussion, Andrew Crockett commented on the three main themes of the symposium: monetary policy in a low-inflation environment, monetary policy and asset prices, and the choice of an exchange rate system. Crockett noted that inflation targets advocated by symposium participants ranged from 0 to 3 percent. He preferred the 1-to-2-percent range currently used by many central banks because of concerns about downward wage and price rigidity and the possibility of a liquidity trap. He also noted that most participants favored using "constrained discretion" rather than rigid rules as the basis for implementing monetary policy. According to Crockett, key features of "constrained discretion" are a firm commitment to long-run price stability and policy transparency. On the issue of asset prices and monetary policy, he was not entirely comfortable with the view that asset prices only mattered insofar as they had inflationary implications. Citing imbalances in the United States, such as the level of equity prices, the large current account deficit, and the low saving rate, Crockett asked whether monetary policy could play a constructive role in preventing the buildup of these imbalances.

Finally, on the choice of an exchange rate system, he favored flexible rates over dollarization and stressed the importance for emerging economies of developing the ability to borrow long term in their domestic currency.

In his remarks, Stanley Fischer focused on monetary policy operations in a low-inflation world and the choice of an exchange rate system. He noted that despite general agreement about the long-run strategy for monetary policy, much work remained on short-run policy implementation. In particular, he suggested that more effort should be directed to quantifying the short-run trade-offs between inflation and unemployment and between inflation and the exchange rate, as well as the relationship of these trade-offs to the long-run goal of price stability. On the choice of an exchange rate system, Fischer generally favored flexible rates. He observed a close correlation between fixed-rate systems and financial crises in a number of countries in recent years. At the same time, he thought that, in special circumstances, some countries might benefit from a harder peg and that, over the long run, there might be a movement toward larger currency blocs.

In the final presentation, Jacob Frenkel offered his thoughts on maintaining financial stability and the choice of an exchange rate system. He noted that increased domestic and international capital mobility had compressed the time it took for shocks to affect the economy. Maintaining stability in such an environment required both a credible monetary policy and strong institutional safeguards to deal with unexpected situations. In his view, restricting capital mobility was not a desirable alternative. Like Fischer and some other participants, Frenkel saw the trend in exchange rate regimes toward fully flexible or strongly fixed. According to Frenkel, recent crises had made the middle ground between fixed and flexible less attractive. At the same time, he emphasized that the choice of an exchange rate system was only one ingredient in preventing financial crises. To be successful, stressed Frenkel, any exchange rate mechanism must be built on a strong banking and financial system.

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