MONETARY POLICY IN AN INTEGRATED WORLD ECONOMY

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The revolutionary changes occurring in Europe and elsewhere raise the important question of how to achieve monetary stability in an increasingly integrated world economy. In addressing this issue, I shall focus on the formulation and implementation of monetary policy by central banks in a more deregulated, more globally integrated financial system.

The Current Monetary and Financial Environment

The major trading regions of the world generally operate under a fiat money, flexible exchange rate regime. Admittedly, currency arrangements appear to be evolving into a system of multipolar currency blocs, so the term "flexible" is used advisedly; perhaps "dirty" or "managed" float would be more appropriate. There is little doubt that a good deal of (largely sterlized) intervention has occurred in recent years. Nonetheless, there can also be little doubt that exchange rates between major trading regions move all too frequently and often by substantial magnitudes. Exchange rate movements certainly play a large role in the transmission of changes in monetary policy as well as in the balance-of-payments adjustment mechanism. Nonetheless, reserve holdings have actually increased, despite the belief by some that reserve holdings would decline when exchange rates were allowed to float. In particular, the dollar

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continues to serve as a key reserve currency under current international monetary arrangements.

We live in an increasingly integrated and deregulated financial system. Revolutions in telecommunications and information processing have dramatically lowered the costs of acquiring, disseminating, and processing information and undoubtedly have quickened the pace of the integration process. These revolutions fostered a host of financial innovations that enabled price, geographic, and product regulations of financial services to be readily circumvented. In so doing, these advances promoted the deregulation of financial services, which allowed both financial markets and, more generally, the entire market system to function more efficiently.

These developments have literally changed the world; no part of the world, not even the centrally planned economies, has escaped the effects of these changes. Indeed, the vast improvements in the workings of market-based systems underscored the increasing problems of centrally planned economies. The growing production of both information and knowledge has contributed to an increasingly complex world and made it more obvious that such information and knowledge is, by its very nature, decentralized and dispersed. As the socialist-calculation debate of the 1930s demonstrated, market-based systems are necessarily more efficient at processing and transmitting information about relative supply-and-demand conditions and providing incentives to produce and distribute desired goods and services.

Characteristics of a More Integrated World Economy

Larger and More Rapid Flows of Money and Financial Capital

An important characteristic of this environment is the increasingly large and rapid flow of money and financial capital. Capital flows, for example, have increased dramatically in recent years, and such capital transfers occur more quickly; many financial adjustments or provisional payments settlements can now occur almost instantaneously. Furthermore, these movements occur continuously, with foreign exchange and some futures markets operating 24 hours a day around the globe. Currency substitution has not yet been empirically important in the industrialized world, but this could change. It has already been recognized that these substantial capital flows may be so potent that they now drive trade flows rather than the other way around.

Portfolio adjustments within national borders and between various domestic financial markets have also become large and rapid. Individuals and corporations can easily and quickly move huge sums of money and financial capital between various financial instruments and financial markets. As illustrations, one need only mention the advent of various money market mutual funds or stock index futures and program trading.

Greater Interdependence of Financial Markets

Another important characteristic of an increasingly integrated financial environment is that financial markets have become more interdependent and less separate and segmented. National economies are now more influenced by international factors, and economies are becoming increasingly open; the only truly closed economy is the world economy. In this environment, prices of financial assets, traded goods, and interest rates have become increasingly interrelated and can even move in unison, depending on the exchange rate regime.

For example, on October 19, 1987, we witnessed the simultaneous and nearly instantaneous "adjustment" of world equity prices. Recently, inflation rates of many large industrial economies have tended to converge as the desire for exchange rate stability has led to more coordinated monetary policies.

An implication of the greater independence of world financial markets is that the United States is no longer the overwhelmingly dominant player it was immediately after World War II. Accordingly, the actions or policies of other significant players now have greater spillover effects on U.S. markets, either through movements in the exchange rate or in other financial asset prices. Research has shown, for example, that the variability of exchange rates, commodity prices, bond prices, and equity prices has been significantly greater during the last several years relative to the earlier postwar period. More than likely, this increased volatility was the result of more efficient information processing and greater international financial integration, combined with variances in domestic monetary policy goals among industrial countries.

Implications for Monetary Policy

Several major implications for monetary policy arise from the greater financial integration of the global economy. These implications relate to (1) the appropriate data for use as monetary policy indicators or guides, (2) the appropriate anchor for the system, and (3) the coordination of monetary policy.

Appropriate Data for Use as Monetary Policy Indicators or Guides

The information requirements of a monetary authority operating in a global economy are monumental. In order to conduct appropriate policies in a rapidly changing environment, central banks must have information that is relevant, reliable, and available. Because monetary policy necessarily relates to the future, forward-looking information is essential. Yet, we live in a complex world of vast information needs where knowledge is decentralized and highly disaggregated. Accordingly, mechanisms are needed that work to summarize or aggregate diffused data to make it useful for policymakers.

Because financial integration and deregulation have fostered large and rapid flows of financial capital, the timely and accurate compilation and measurement of such financial quantity variables have proven to be difficult and elusive. Current measures of money, particularly narrow transactions balances, have been much less reliable than was earlier the case.

In a rapidly changing world, the time-consuming and cumbersome process of collecting and compiling large amounts of data on the quantity of money and financial capital is not likely to be the most effective way of summarizing and aggregating information or of obtaining timely and accurate data on which to base policy decisions. Measures of the quantity of money and financial capital, after all, are necessarily based on samples. Accordingly, such quantity data are subject to revisions and rebenchmarks that can often be substantial. Also, sampling techniques take time, so there is an inherent lag in the reporting of such data. Because financial flows move rapidly, quantity measures are often outdated and sometimes obsolete by the time they are compiled and published. Measures of international financial capital movements, for example, are notoriously inaccurate and are sometimes published only months after they occur.

International money and capital flows are not the only forms of financial flows that have become more difficult to measure. The proliferation of transactions instruments associated with deregulation, together with the ease of portfolio adjustments, has also made it difficult to measure various domestic financial variables. It is well known, for example, that the accurate measurement of narrow transactions balances has proven to be illusory. In part because of such measurement difficulties, narrowly defined monetary aggregates (such as M1) have become much less useful as guides to monetary policy.

There are still other problems with quantity data. To be useful, quantity data must be seasonally adjusted. And should redefinitions

of variables occur due, for example, to deregulation, technological changes, or institutional developments, the altered measurements and changed behavior of particular variables can be substantial. In sum, there are significant measurement, timing, and sometimes definitional problems associated with the use of sample-based quantity data, particularly in our rapidly changing and increasingly integrated financial system.

Price data—specifically price data from centralized auction markets, such as bond, foreign exchange, and commodity markets—have a number of advantages for use as policy guides. To understand why this is the case, it is useful to remember that financial market prices are summaries or aggregators of information embodying the knowledge and expectations of large numbers of buyers and sellers who have incentives to make informed decisions in an uncertain world. Active competitive markets are a mechanism that efficiently absorbs and processes dispersed information.

As a consequence of this property, financial market prices (such as exchange rates, commodity prices, and bond prices) provide useful information. Furthermore, they are timely and readily available literally by the minute. They are accurate; less subject to sampling error; and not subject to revisions, rebenchmarks, seasonal adjustments, or "shift-adjustments" that often plague quantity data.

Because market prices embody expectations of the future, they are inherently forward-looking, offering a distinct advantage over any form of quantity data. This is a particularly important quality for monetary policymakers, who are necessarily forward-looking in their decisions.

Because financial market prices are forward-looking, they contain information about inflation expectations. For example, if the markets consider monetary policy to be too easy, based on the observations of thousands of traders, then commodity prices and bond rates will be bid up to command an inflation premium and the exchange rate will depreciate to account for the reduced purchasing power of the currency.

In addition to being useful in the normal conduct of monetary policy, market price indicators are also quite useful for monetary authorities in financial crises when lender-of-last-resort responsibilities become relevant. It is in these circumstances that many forms of monetary or reserve aggregates often prove to be particularly misleading for two important reasons. First, demands for liquidity can change quickly and dramatically. Demands for currency, excess reserves, and other quality assets, for example, often increase sharply. In this case, the quantity of reserves or narrow transactions

aggregates are often misleading guides to policy. Second, changes in demand for these instruments often occur literally by the hour. In such situations, quantity data are obsolete by the time they are compiled or published.

Market price data, however, are readily available minute by minute. Lender-of-last-resort policy decisions during a financial crisis are necessarily made quickly. The data essential to support such decisions, therefore, must be readily available and timely. Quantity data (such as the monetary or reserve aggregates) are ill suited for these circumstances, whereas market price data are eminently appropriate.

Sharp decreases in Treasury bill and bond yields, for example, could signal a flight to quality as well as work to flatten or invert the Fed funds/Treasury bond yield spread. And dollar depreciation or appreciation could occur depending on the national or international nature of the financial crisis. In short, key market prices may immediately signal the need for an increased supply of central bank liquidity. In such circumstances, these prices may provide correct and timely signals to the central bank. Other market price data, such as "quality spreads," bank stocks, and even gold prices, may also yield useful and timely information.

In an analogous manner, market price data may prove to be useful by yielding timely and accurate information in the transition to a monetary union, as in the case of East and West Germany. Movements in West German long-term interest rates as well as in both Deutsche mark exchange rates and commodity prices, for example, may indicate whether the supply of money and reserves is accommodating rapidly changing demands for Deutsche marks in a noninflationary manner.

An Appropriate Monetary Anchor

A nominal anchor is essential under any fiat money, flexible exchange rate regime. Accordingly, market price guides should be linked to a price stabilization objective. For example, any sustained rise in nominal bond yields and commodity prices combined with a general weakening in the exchange rate would very likely signal rising inflation expectations. This would suggest to the central bank a need for higher call money rates to avoid an increase in the general price level. Such policy adjustments would be continually monitored against evidence of general price stabilization, which would provide the ultimate anchor to the system. Of course, it is essential that this objective should be both an announced and credible goal. Because inflation is positively correlated with increased volatility in financial

markets, policies aimed at producing a stable price environment will likely contribute to ensuring that such volatility is lower than would otherwise be the case. Also, it is important that price stabilizing monetary policies become the common objective of the major industrialized countries; coordination efforts toward the goal of price stability can contribute significantly to reduced volatility of exchange rates and other relative financial market prices.

Coordinated Monetary Action

It is also becoming obvious that the goal of price stabilization cannot be effectively achieved without significant changes in exchange rates and possibly the balance of payments. In our increasingly integrated global financial system, cooperation among the major economies becomes more and more important. Whether we like it or not, such cooperation is essential in order to avoid extreme financial volatility and potentially disruptive shifts in international capital flows.

As a consequence, central bank policies designed to coordinate price stabilization across countries deserve strong support. Nonetheless, flexibility is still appropriate. In particular, countries should have the flexibility to insulate themselves from external shocks and from irresponsible policies pursued elsewhere. Otherwise, such shocks or policy mistakes could be transmitted across bond markets and stock markets of all major countries. However, since movements in exchange rates now play such an important role in the transmission of monetary policy, they cannot be ignored. And coordinating monetary policies with a price stability anchor should go a long way toward reducing excessive exchange rate volatility.

Conclusion

Monetary policymakers operate under a fiat money, roughly flexible exchange rate regime. The current environment can be characterized as an integrated, deregulated, global financial system where information is dispersed and decentralized. This environment produces large, rapid, and continuous adjustments of money and financial capital. Increased economic integration means that domestic financial markets have become much more sensitive to international forces.

There are several important policy implications of these developments. The many advantages of financial market price information suggest that these prices are more appropriate for use as policy guides

than as quantity variables. A price-stability anchor is essential under a fiat money, flexible exchange rate regime. And, finally, because the world is becoming increasingly integrated, coordinated monetary policy action is desirable.