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Monetary Policy Autonomy and Global Market Integration

More than two hundred years ago, Adam Smith realized that as markets become more closely integrated around the globe, the opportunities for specialization and for exchange increase, and that the benefits from these activities form the basis of the wealth of nations. Over the last twenty years, technological advances in travel, communications and information processing have greatly fostered the process, especially for financial markets. These advances, however, have fundamentally altered the environment in which nations conduct their monetary policies.

Many economists contend that in a closely integrated world economy, autonomous macroeconomic policies--particularly monetary policies--are either ineffective or inappropriate. Typically, these economists embrace an activist (or Keynesian) view of monetary policy in which policymakers manage financial instruments in an attempt to achieve favorable trade-offs between real economic growth and inflation over the course of a business cycle, or between exchange-rate stability and domestic policy objectives. Within the context of an activist view of monetary policy, high capital mobility worsens the output and inflation trade-off, makes the linkages between financial variables and the economy less certain, and increases exchange-rate volatility. To redress the problem, these economists and policymakers call for closer international policy coordination focused on exchange-rate stability or on the joint determination of macroeconomic policies.

Capital mobility across closely integrated world markets does indeed alter the monetary policy environment, and it does place important constraints on the setting of autonomous monetary policies. Nevertheless, it does not diminish the importance of autonomous monetary policies, nor does it require policy coordination among major industrial countries. Such a view stems *only* from the activist view of monetary policy, which I do not share. Instead, I believe that monetary policy can do no better than to

pursue long-term price stability, and that international capital mobility amplifies the importance of that objective.

In a closely integrated world economy, national economic policies compete. Individuals are free to allocate their wealth across assets denominated in different currencies in such a way as to best protect its purchasing power. With capital highly mobile, monetary policy must remain consistent and credible--qualities that require central banks to focus solely on price stability.

Financial Market Integration

Since the end of World War II, through such organizations as the GATT, we have successfully opened and expanded world markets for goods and services. In the United States, for example, trade (exports plus imports) has doubled as a percentage of GNP from less than 10% of GNP in the mid 1960s to approximately 21% today. Nevertheless, we have only recently come to appreciate that expanding financial markets has the same type of wealth enhancing effects as expanding goods markets. Bretton Woods, for example, admonished cross-border restrictions on trade, but readily accepted prohibitions on capital flows. Over the past twenty years, however, international financial flows have grown sharply. In their recent survey of the integration of world capital markets, Morris Goldstein and Michael Mussa find that, "...the international component of financial market activity has grown faster than either the domestic component or the value of world trade."¹ Gross U.S. cross-boarder transactions in bonds and equities, for example, have increased from 3% of GNP in 1970 to almost 100% of GNP in 1990.² Although it is still

¹ Morris Goldstein and Michael Mussa, "The Integration of World Capital Markets," paper prepared for the Conference on "Changing Capital Markets: Implications for Monetary Policy," sponsored by the Federal Reserve Bank of Kansas City at Jackson Hole, Wyoming, August 19 - 21, 1993.

² These data are originally from the Bank of International Settlements and are presented in Andrew Crockett, "Monetary Policy Implications of Increased Capital Flows," paper prepared for the Conference on "Changing Capital Markets: Implications for Monetary

premature to refer to one global capital market, the trend seems clear and is likely to continue.

Perhaps the major catalysts to these developments have been innovations in telecommunications, travel and information processes that have greatly reduced transaction costs. By transactions costs, I mean all costs--including information costs--necessary to establish and subsequently enforce contracts for exchange. As transactions costs fell, investors developed a wide range of new financial products, entered new markets, and obtained scope and scale economies. Also, the need to hedge wealth against exchange-rate risks and against inflation and the heavy concentration of savings in institutional funds have contributed to the expansion of global financial markets.³

The last two decades have also witnessed important regulatory changes--internal and external--which have been both a reaction to these market developments and a further catalyst for them. Most major developed countries have lifted domestic restrictions on financial firms, thereby enabling them to establish new products and markets. Nearly all major developed countries within just the past few years have removed exchange controls and other artificial barriers to international capital movements.

This process of globalization is mutually beneficial both to creditor and debtor countries. Savers earn a higher return; borrowers face a lower cost. Investors have a greater scope for specialization, and savers have increased opportunity for portfolio diversification.

Capital Mobility and the Effectiveness of Monetary Policy

An increase in the international mobility of financial capital can alter basic relationships between monetary-policy instruments, targets, and objectives, and can make

Policy," sponsored by the Federal Reserve Bank of Kansas City at Jackson Hole, Wyoming, August 19 - 21, 1993.

³ Morris Goldstein and Michael Mussa, op. cit.

these relationships more unpredictable. The significance of these effects and how central banks might respond to them depends largely on whether or not one believes that monetary policy can affect real economic variables, like short-term economic growth and employment, as well as inflation.

Assume, for example, that central banks *can* affect real economic variables by exploiting rigidities in prices and wages and consider the effects of an unanticipated change in monetary policy. When investors can freely diversify their portfolios across assets denominated in different foreign currencies, their demand for money-market instruments denominated in any one currency becomes more interest elastic. Consequently, an unanticipated change in any one country's money supply is likely to have a smaller effect on domestic interest rates and, assuming that central banks can exploit short-term price rigidities, a smaller short-term effect on real economy activity. Capital will quickly flow out of countries that unilaterally ease monetary policy.

Although capital mobility reduces the significance of short-term interest rates in the transmission of autonomous monetary policies, it heightens the relative importance of exchange rates. With capital mobile, a monetary expansion quickly translates into a currency depreciation, which according to some sticky-price models, can actually overshoot its ultimate equilibrium value.⁴ The depreciation may induce some real economic effects by stimulating trade, but most large countries are likely to find these smaller than interest-rate induced effects because interest-sensitive sectors are likely to comprise a larger share of their GDP than trade sensitive sectors.⁵ Because exchange rates are more flexible than goods prices and because they can directly affect import prices, the inflationary response associated with any given monetary-policy change is likely to be

⁴ Rudiger Dornbusch, "Expectations and Exchange-Rate Dynamics," *Journal of Political Economy* (December 1976).

⁵ As a rough gauge, export and imports accounted for 19% of GDP in the late 1980s (average 1985-1989) whereas personal consumption expenditures on durables, investment, and residential construction accounted for 25%.

greater when capital is highly mobile than otherwise. Consequently, within the context of this sticky-price model, greater capital mobility worsens the trade off between reduced unemployment and higher inflation associated with a monetary expansion.

With closely integrated markets, however, nations can improve this trade-off by coordinating changes in their monetary policies. Policy changes would then affect worldwide interest rates simultaneously, reducing the tendency of capital to flow across national borders and preventing exchange-rate changes. We have witnessed this in Europe over the past two years. Members of the European Community, who believe that monetary policy can successfully pursue short-term business-cycle objectives, have urged Germany to stimulate money growth so that they too could pursue an expansionary monetary policy while avoiding capital flight and currency depreciation. We also witnessed it in attempts among the Group of Seven countries to coordinated monetary policy changes in last half of the 1980s.

For one who does not accept the sticky-price model as a reasonable guide for monetary policy, the above conclusion is largely irrelevant. Increasingly since the experience of the 1970s, economists have come to view price stability as the primary, and only feasible, objective of monetary policy. They reject the notion--still prevalent among many policymakers--that monetary policy can be successfully manipulated to achieve trade-offs between inflation and unemployment over the business cycle, or to maintain both a stable exchange rate and a stable price level. In part, these different perspectives reflect alternative theoretical views of inflation. Some see inflation as a function of the output gap--the difference between actual GDP and potential GDP in a country--while others view it as a function of excessive money growth.

When one views price stability as the sole objective of monetary policy, increased capital mobility only strengthens the need for central banks to send clear and credible signals of their commitments to markets. As I will argue later, I do not believe that international policy coordination can heighten the credibility on monetary policies.

Another reason for avoiding formal structures for international policy coordination is that they may actually increase uncertainty about the effects of policy. Discussions of policy coordination assume that governments understand the nature of economic disturbances and the appropriate response. As a practical matter, policy is conducted in an atmosphere of uncertainty, which high capital mobility compounds. Reflecting this uncertainty about the nature of policy and economic disturbances, policy prescriptions based on closed-economy models often differ, but they usually differ only in terms of degree. Policy prescriptions based on open-economy models, however, often vary with respect to directions. Some large econometric models, for example, show an unanticipated monetary expansion improving the current account in the short run because it depreciates the domestic currency. In others, the monetary expansion worsens the current account because it operates through an income effect.

International policy coordination predicated on the wrong economic model can lead to a reduction in world welfare. Frankel and Rockett, for example, considered policy coordination in ten different large econometric models.⁶ In repeated experiments, they designated one model to be the true description of the world and considered policy coordination under alternative combinations of the all models. They found that policy coordination under the wrong models reduced economic welfare in one-half of the cases.

Countries can achieve many of the supposed gains from policy coordination, not by jointly determining monetary policies as G7 or the EC sometimes recommend, but by sharing information about the nature of economic disturbances and about intended policy responses. The Frankel and Rockett study, for example, found that by adopting the true model, countries generally did better than by coordinating policies under an incorrect

⁶ Jeffrey Frankel and Katherine E. Rockett, "International Macroeconomic Policy Coordination When Policymakers Do Not Agree on the True Model," *American Economic Review*, Vol. 78, No. 3 (June 1988), pp. 318 - 40.

model. Consequently, by establishing a clear and credible policy of price stability, central banks could reduce much of the uncertainty associated with monetary-policy making.

Capital Mobility and Exchange Rates

Besides reducing the significance of interest rates relative to exchange rates in the transmission of unanticipated monetary-policy changes, capital mobility is likely to increase the *uncertainty* associated with both channels, because the effects of autonomous monetary policies in any one country depend more crucially on autonomous monetary, fiscal, and regulatory policies set in other countries. The interest-rate and exchange-rate effects of an expansionary U.S. monetary policy, for example, could differ substantially depending on the relative posture of German monetary policy. The uncertainty associated with integrated capital markets--as well as the overshooting phenomenon--is likely to increase the volatility of exchange rates.

Most attempts to coordinate policy seem to focus on exchange-rate stability. The European Exchange-Rate Mechanism (ERM) is an example. Each ERM participant establishes bilateral pegs for its currency against the currencies of the other participants. Until early last August, exchange rates were allowed to fluctuate within a 2.25% margin on either side of this central parity, but each member had to defend its exchange rate at the margin by buying and selling foreign exchange. In so doing, however, the participants hope to reduce exchange-rate uncertainty and, thereby, lower the transactions costs of doing business throughout Europe.

When central banks buy or sell foreign exchange they alter their nation's monetary base. This presents no direct problem for monetary policy, if the initial disturbance to the exchange rate resulted from an inappropriate change in domestic monetary conditions, but otherwise the intervention will conflict with domestic price stability. In an effort to keep their monetary policies autonomous from exchange-rate objects, central banks typically offset--or *sterilize*--the monetary effects of their intervention by undertaking offsetting

open-market transactions. When, for example, the Federal Reserve buys \$100 million equivalent German marks, it will simultaneously sell \$100 million in Treasury securities to offset the effects of the intervention on the U.S. monetary base. Unfortunately, empirical studies strongly indicate that such sterilized intervention typically is ineffective and otherwise has only a small, temporary influence on exchange rates.⁷ Consequently, to stabilize exchange rates, nations generally must forgo operating an autonomous domestic monetary policy. This is why inflation convergence is so crucial to the maintenance of the European ERM.

The experience with Bretton Woods and, more recently, the events in Europe suggest that the costs of integrating monetary policies to stabilize exchange rates eventually tend to exceed the benefits. Much has to do with the nature of economic disturbances. Countries are most likely to form monetary unions successfully with other countries that share common economic conditions. Unfortunately, economic disturbances--fluctuations in the business cycle or oil-price shocks--are often country specific. When economic conditions differ among countries, an exchange-rate change is one natural and efficient means of adjustment. If, for example, demand for U.S. goods and services rises while demand for Canadian goods and services falls, a rise in U.S. prices relative to Canadian prices and an appreciation of the U.S. dollar against the Canadian dollar can help restore equilibrium in both countries. A more recent case in point is the reunification of Germany. Many observers thought that the fiscal transfers between western and eastern Germany, together with capital inflows, would naturally tend to appreciate the mark and strain the ERM.

While concerted responses to common macroeconomic shocks are a desirable prerequisite for the likely success of monetary integration, they are not necessary.

⁷ Owen F. Humpage, "Central-Bank Intervention: Recent Literature, Continuing Controversy," Federal Reserve Bank of Cleveland, *Economic Review*, Vol. 27, No. 2 (1991 Quarter 2), pp. 2 - 11.

Regions of the United States often experience different macroeconomic conditions, especially responses to shocks such as energy-price changes or defense-spending cuts. Yet, no one at the FOMC ever proposes that we alter the exchange rate between dollar notes issued by different Federal Reserve districts. What is crucial in the face of country-specific or region-specific shocks, however, is that other avenues for adjustment between regions are available so that exchange-rate changes are not an issue.

If goods and services are free to move across regions in response to small differences in prices, and if labor and capital are free to move in response to inter-regional differences in wages, interest rates, and investment opportunities, then the terms of trade between regions need not change very much to foster adjustment among them. The purchasing power of \$100 in Cleveland, Ohio is noticeably different than that in Boston, Massachusetts, but the difference is much smaller than that between Cleveland and Hong Kong because resources will quickly shift between Cleveland and Boston to arbitrage price differences.

One might argue that further world market integration will eventually lead us to a point at which European Monetary Union or a common global currency is feasible--and that is fine. The process, however, cannot be dictated by bureaucratic decision or defined according to a schedule as the Maastricht Treaty envisioned. It must evolve in a market-type setting in which national institutions--including national currencies and monetary policies--compete.

Capital Mobility, and Monetary Competition

According to recent Bank for International Settlements estimates, approximately 80% of all foreign exchange transactions involve dollars, approximately 40% involve German marks, while Japanese yen and British pounds account for 23% and 14%,

respectively. Other individual currencies are relatively unimportant to the global market.⁸ All convertible currencies, however, compete in international markets. The U.S. dollar has gained relative to the British pound over this century, and the German mark has recently gained ground relative to the dollar in Europe. Market participants tend to hold and to transact in those currencies that are the most stable in their anticipated long-term purchasing power. Capital mobility, by increasing the options available for investment, intensifies this competition.

Governments, however, typically attempt to limit this international competition and to maintain local monopolies for their national currencies through the use of legal tender laws, exchange controls, and capital restraints. Countries most protective of their national monetary monopolies tend to have weak governments in the sense that they find it difficult to raise taxes. They, therefore, finance a large portion of their expenditures by issuing debt. Italy, for example, has had 52 governments in the past 48 years and has a relatively high debt-to-GDP ratio of 112%.

Such countries often resort to inflation as a form of fiscal policy--a means of financing government. On the one hand, they garner seigniorage by printing money and can generate tax revenues through inflation. Such tax hikes do not require an act of the legislature, and they tend to hide the true costs of government expenditures. On the other hand, they deflate the real value of outstanding governmental debts. The use of inflation-financed fiscal expansions eventually destroys a country's monetary-policy credibility, but it is often politically expedient.

Countries whose currencies are most widely used internationally--the United States and Germany--realize the political temptation to print money, and they have adopted institutional arrangements that minimize it. One important institutional distinction is that they establish independent central banks. Central-bank independence is key to maintaining

⁸ These percentages do not add to 100% because transactions involving one currency, say dollars, may involve another currency, say German marks, and get counted twice.

a credible commitment to an inflation objective. Studies have shown that countries with independent central banks tend to have lower and more stable rates of inflation than countries whose central banks are directly responsible to the fiscal authorities.⁹

In addition, mandating that a central bank pursue price stability above all other possible monetary objectives seems equally, if not more, important. Both the Bundesbank and the Federal Reserve are independent of their governments, but only the Bundesbank's charter specifies price stability as its overriding objective. While both central banks have reputations for price stability, the Bundesbank's performance and credibility has tended to be somewhat better than the Federal Reserve's. I attribute this to its statutory requirement to pursue a stable currency above all else.

Policymakers in some countries seem to believe that by pegging their currency to that of a country with a low rate of inflation and a credible anti-inflation policy, they too can acquire a greater degree of monetary-policy credibility. For some countries, this seemed a key motivation for joining the ERM. Why would a country expect the world to accept a non-binding, non-enforceable external commitment--its exchange-rate peg--as proof of its commitment to price stability, when that same government cannot establish internal institutions, secured by the force of its own laws, to foster the same end?

The prospects of a currency depreciation exert a stronger discipline on the inflation tendencies of countries than exchange-rate pegs. Currency depreciation often represents a flight of wealth out of a particular currency--the market's "vote" against the monetary policies of the respective country. Consequently, if markets perceive monetary-policy coordination as a governmental attempt to eliminate the discipline of exchange-rate depreciation on central banks, international coordination could adversely affect inflation expectations. Some observers, for example, fear that the adoption of a common monetary

⁹ Alberto Alesina and Lawrence H. Summers, "Central Bank Independence and Macroeconomic Performance," *Journal of Money, Credit and Banking*, Vol. 25, No. 2 (May 1993), pp. 151 - 162.

policy and a single central bank in Europe could raise the overall level of inflation in Europe, rather than lower it. Guarding the statutory independence of any Euro-Fed would seem crucial.

Towards Closer Global Monetary Integration

The recent history of our global monetary systems (Bretton Woods and the ERM) suggests that attempts to impose monetary integration via fixed-exchange rates on a broad scale inevitably will fail. In part, as I have argued, this results because regions of the world that experience disparate economic conditions and low resource mobility can adjust to economic shocks more efficiently by allowing their exchange rates to change. These regions will never integrate their monetary policies, nor should they.

Furthermore, monetary integration cannot proceed in a credible manner, even among regions in which it is feasible, unless governments first adopt domestic institutions that credibly insure their commitment to maintain domestic price stability. Governments with an intrinsic incentive to inflate cannot maintain a stable external value of their currencies. Such institutions as independent central banks, low levels of public debt, and the ability to tax are minimal prerequisites for a credible anti-inflation policy and the establishment of closer monetary union. How do we foster such institutions?

History also teaches us that institutions, including those that determine the use of national currencies, inevitably compete. Through competition, efficient wealth-enhancing institutional forms tend to emerge. In the interest of fostering greater international monetary stability and integration, we should encourage such institutional competition. This requires above all else the free movements of resources, through the elimination of artificial restraints on the movements of capital, goods, services, and labor. This could

include the removal of national legal tenure laws so that individuals could be assured of enforcement of contracts written in any currency.¹⁰

Individuals would then hold their assets in currencies that are most stable in terms of their expected long-term purchasing power. A free flow of resources would foster a convergence of institutional forms across participating governments as they compete for these resources by providing stable economic and political environments. Governments that fail to provide such an environment will lose resources as markets vote on policies. The resulting convergence of monetary and fiscal policies will achieve the highest sustainable degree of exchange-rate stability.

I do not know if this process would eventually lead to fixed global exchange rates or to a single currency throughout Europe or the world. I am certain, however, that such a process would promote efficiency by encouraging global monetary integration to the point where the gains from further integration equal the losses from diminished regional autonomy.

Many may be skeptical of this suggestion, but prior to the twentieth century global monetary arrangements, like the gold standard of the nineteenth century, were not established by supra-national governmental bodies.¹¹ Instead, countries freely opted to participate when the benefits of cooperation exceeded the costs. Except when interrupted by wars, these arrangements evolved over time apparently with less inflation and volatility than the monetary arrangements of the twentieth century. Perhaps, we will get it right again in the twenty-first century.

¹⁰ On competition between national currencies, see: Pascal Salin, "The Choice of Currency in a Single European Market," *Cato Journal*, Vol. 10, No. 2 (Fall 1992), pp. 363 - 376.

¹¹ See: Peter Bernholz, "Institutional Requirements for Stable Money in an Integrated World Economy," *Cato Journal*, Vol. 10, No. 2 (Fall 1990), pp. 485 - 512.