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Efficiency and Stability in World Finance

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The years 1950 to 1980 appear in retrospect as a period of above average growth for most by the world's market economies. More people in more countries experienced increases in their standards of living than at any time in recorded history. World trade expanded faster than world output, increasing the efficiency of the world economy. Improvements in technology that reduced costs of transport and communication played a role. Sufficient political stability to prevent a major war encouraged many countries to direct efforts toward growth and away from war and costly rivalries.

The institutional structure of international economic relations contributed also. Under the General Agreement on Tariffs and Trade (GATT), tariff barriers on manufactures were reduced to relatively low levels, although quotas and other non-tariff barriers offset some of the reduction in tariff barriers, and protection of agriculture probably increased. GATT permitted countries to adopt strategies of export led growth. The financial system operated first under a system of fixed but adjustable exchange rates and later under a system of fluctuating exchange rates between major currencies. In both systems the dollar served as the principal medium of exchange and unit of account for the world, or at least for the market economies. Capital movements, though restricted at times and places, rose from the low levels of the 1940s and 1950s to the relatively high rates of the 1970s and 1980s.

This set of arrangements is now in flux. We can do no more than speculate as to whether the future lies in proposals to strength the rules of multilateral trade, as in the Uruguay round of GATT negotiations, or in bilateral arrangements with rising protection

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between groups of countries in Europe, North America and Asia. Bilateral arrangements include the recent Canada-U.S. Free Trade Agreement and proposals to reduce barriers to trade and finance within the European Community while maintaining and perhaps increasing barriers against third parties. Increased use of bilateral agreements opens the possibility of trade diversion from third countries, protectionist policies against third countries, and a turn back toward the system of trading blocs, with barriers against non-members, more characteristic of the interwar period than of the postwar years. On the financial side, there are now important alternatives to the dollar as a medium of exchange and unit of account. The mark or possibly the ECU is emerging as a partial substitute for the dollar within Europe, and the yen serves increasingly as money for parts of Asia. Japan's role in relation to its neighbors is broader than in the past. Formerly, Japan mainly processed raw material imports into finished goods; recently, its relations with its Asian partners have developed more interdependence. It is not surprising that, with this development, more of the trade and lending between Japan and its Asian trading partners is now denominated in yen. A manufacturer of sub-assemblies or components in Korea or Taiwan who borrows in Tokyo and sells in Japan is likely to find the yen superior to the dollar as a unit of account and medium of exchange.

The increased holding of non-dollar reserves is not a new event or necessarily a cause for concern. The Deutsche mark and the Japanese yen were the second and third currencies used as reserves a decade ago—before the real appreciation and subsequent depreciation of the dollar and before the U.S. began to borrow heavily abroad. If we exclude ECUs, the U.S. share of official holdings of foreign reserves in 1980 was 73%, the mark's share was 12% and the yen's was about 3½%. By the end of 1987, the dollar's share had fallen to 67%, whereas the shares of the mark and the yen had increased to 15% and 7% respectively.[1] In both years, the three currencies made up 90% of countries' reserves, with changing composition of the total. These data suggest that movement toward a multi-currency world has been gradual, not precipitate.

Those with memories of the currency problems of the interwar period may find movement toward a multi-currency world disquieting. One reason is that the advantages are often neglected. A multi-currency world can serve to discipline country policies, lowering inflation and anticipations of differences in rates of inflation. A disadvantage is that, with the more rapid adjustment of asset markets than of output markets, shifts between currencies can generate or exacerbate real disturbances. Hence, a multi-currency world may be subject to greater short-term variability, greater risk, and therefore excess burden. Concerns of this kind, and concerns about potential efficiency losses from the development of bilateral trading blocs, arouse fears of a retreat from the institutional framework that contributed to the increased efficiency, widespread develop-

[1]Data are from International Monetary Fund, *Annual Report 1988*, Washington, Table 1.2, p. 68. Allowing for the holdings of ECU reduces the dollar's share to 57% but also reduces the other currencies' shares.

ment, higher rates of growth, and increased economic stability experienced by many countries during the past forty years. The conference treats a subset of this topic, the financial system. My subsequent discussion recognizes the link between finance and trade but concentrates on money and finance.

I. The Interwar Years as Precedent

During the interwar years, the dollar replaced the pound as the world's major currency, and the relative importance of New York as a world financial center increased. At about the same time, or a little earlier, the U.S. became a net creditor, while Britain was no longer able to maintain its prewar position as the world's principal lender. Further, reparations and war debts called for transfers from debtors to creditors and the financing of payments imbalances.

It is much too easy to leap from the relative positions of Britain and the U.S. in the interwar period to the relative positions of Germany, Japan, and the U.S. at present. The analogy gains strength from the repetition of an unfortunate feature of the interwar experience — the principal creditor country or countries continued to run relatively large trade surpluses. Strengthening the analogy further is the similarity between the interwar transfer and debt problems and the transfer and debt problems arising from the current international debt of developing countries.

There are important differences, however. Britain ran merchandise trade deficits for several decades prior to 1920, while sustaining its position at the center of the world financial system. The U.S. began to have surpluses on merchandise trade in the 1880s, long before the dollar became a major international money. The U.S. merchandise trade deficit and the Japanese trade surplus are relatively recent events, and it is far from clear that they will continue for decades. Demographic factors affecting Japan and the United States are an important reason, by no means the only reason, for expecting sizeable changes in the saving and investment balances of the two countries and hence in their trade and current account balances in the decades ahead. Analogies are often misleading, so it may be useful to look more carefully at the conditions that would have to arise for the pattern to repeat with Germany and Japan replacing the U.S. in the 1990s as principal financial centers much as New York supplanted London in the interwar period. Of particular interest at this conference is the role of the mark and the yen in the future development of the international monetary system, so I begin with the role of an international money.

II. International Monies

In a system of fixed exchange rates there is an obvious role for an international money or monies. It should be apparent that in practice there is a role for an international

money also in a system of fluctuating exchange rates. Loans and contracts are denominated in some unit, and payments are typically made in that unit. Transactors hold balances in anticipation of payments, and central banks hold asset reserves. Holders and users of money are not indifferent about the choice of money. They do not randomly choose the money used to make payments, denominate contracts or hold reserves. Ninety percent of measured international reserves are in three currencies, as noted above, and similar dominance would likely be found if we had measures of the other services of money. This section considers some of the factors leading to the choice of particular currencies as international money.

Standard transactions costs explain a small part of the observed concentration on a small number of monies.[2] Costs of acquiring information are more relevant. These costs are not distributed uniformly over all assets or even over all national monies. The marginal cost to the user of acquiring information depends on the choice of the asset to be used as money. The cost declines as the frequency with which the asset is used increases.

Frequency of use rises with the relative importance of trade. Together, the United States, Germany and Japan had more than 30% of the world's exports and imports in 1987, so it is not surprising that the currencies of these countries are widely used and held as money. Averaging exports and import shares of world trade puts the United States first, Germany second and Japan third, the same ordering as the use of the currencies of these countries in international reserves. See GATT (1988).

The relative decline in the role of the dollar as an international money, noted above, accompanied the decline in its share of world trade. The expansion of inter-country trade, for example in the European Community or in East Asia, to which the United States is not a party, contributed to the development of alternatives to the dollar. As information spread about the properties of alternative currencies, they became more widely used as money.

Relative importance of trade is not the only reason for choosing a currency as money. Under fluctuating exchange rates countries and individuals or firms can reduce risk by diversifying currency reserves. There are limits to a country's gain from diversification, however. Each new currency used as money imposes a cost of acquiring information about its quality or properties. With fixed exchange rates within blocs such as the EMS, it is more efficient to hold a representative currency, say the Deutsche mark, than to hold currencies in proportion to bilateral trade shares.

Why choose the Deutsche mark? Why not the French franc or some other EMS currency? Information about the properties of each national money, such as its relative quality as protection against inflation or the risk of exchange controls, distinguishes different monies. Both the costs of acquiring the information and the information differ by countries. Germany has an established reputation as a low inflation country and one that is not likely to impose exchange controls, but France or Italy do not. The quality of

[2]This section follows Brunner and Meltzer (1971).

the mark is higher, so fewer resources must be allocated to monitoring German policies. Higher quality increases the relative demand for the Deutsche mark as an international money. If all the currencies in the EMS agree to fix exchange rates, there is no net gain from holding each, but there is an expected gain from holding marks under the system of fixed but adjustable exchange rates if the mark has higher quality and is more likely to appreciate relative to the other EMS currencies.

Under the Bretton Woods agreement, the dollar was linked to gold. The operation of the system and the economic climate of the period made large changes in the dollar's value improbable in the early years. When the link to gold was broken, the risks associated with holding dollars increased, so the return to diversification rose. Inflationary policies in the United States that lowered the quality of the dollar as an international money and contributed to the demise of the Bretton Woods system contributed to the perceived increase in the benefits of a diversified portfolio.

Although the U.S. has not been party to a currency agreement like Bretton Woods or the EMS since 1973, many countries have kept fixed but adjustable exchange rates with the dollar. The costs of acquiring information about U.S. policies are lower than for Latin American countries and the risks of inflation and instability are lower also, so the dollar is held as a reserve by countries in the area and used as unit of account and medium of exchange in transactions between and within countries.

A relatively large share of the final sales of East Asian countries go to the U.S. and are denominated in dollars. Many of the prices of their imported materials are quoted in dollars also. It remains efficient to use the dollar as a unit of account on a large share of the region's trade. Increased Japanese imports of final goods from the region, or relatively wide swings in the U.S. rate of inflation, would reduce the role of the dollar in the region's trade, payments, and reserves. The dollar's role as an international money would decline further.

The literature on seigniorage highlights the gain to a money issuer and the cost to a holder of a particular money. These costs and benefits are relevant, but they do not fully explain the choice of international monies. Countries like Panama or Hong Kong do not have central banks to issue domestic money and collect seigniorage. Some countries permit "dollarization" or, more generally, permit banks to offer foreign currency deposits, more often as a store of value than as a medium of exchange. A country's history of inflation does not explain all of these decisions. Costs of acquiring information help to explain why a country would choose to forego the gain from seigniorage to reduce the costs of information and transactions. Panama is an example of a country that, by using the dollar as money, imported greater stability of domestic values than many of its neighbors were able to produce. The imposition by the U.S. of financial restrictions on Iran and later on Panama reduces the relative informational advantage of the dollar and increases uncertainty about relevant aspects of U.S. policy, thereby raising both the costs of acquiring information about U.S. policies and the costs of using the dollar as money.

Periods of anticipated rapid inflation or heightened instability in Argentina, Brazil, Bolivia and elsewhere provide evidence on costs of information. Although inflation in the U.S. is higher than in Germany or Japan, the dominant movement by money holders at this time is to the dollar, not to the currencies with lower inflation. People appear willing to pay the higher cost of holding dollars on the expectation that others will make the same choice. For centuries, gold has had a similar attribute in many parts of the world even though its relative price changes with the prices of other metals.

These experiences suggest that non-uniform costs of acquiring information about money function as a barrier to entry by alternative monies. The barrier acts like an established brand name; it provides information about the quality of the product. The producer can, of course, exploit the barrier to entry, but repeated exploitation changes the quality of the product and induces the search for an alternative.

III. Debtors and Creditors

Published statistics show that the United States became a net international creditor at about the time of World War I and remained a creditor until 1985. After 1985, the reported net debt position increased each year. The published data are not entirely accurate, however. Direct investment is valued at historic cost, and most Latin American assets of U.S. banks are carried at face value. Gold is included in the net position but currently valued at $42 an ounce. For these and other reasons, published statistics do not give a clear picture of the U.S.'s net debtor or creditor position. What is clear is that the U.S. is no longer the principal creditor nation and will be a net debtor, if it is not now. My discussion of the reasons for holding and using an international money has not mentioned a country's net debtor position. Is this an oversight or an error?

A common error, I believe, confuses money and credit. Countries may continue to use the dollar as an international money and denominate securities and contracts in dollars even if the U.S. is a net borrower. A Japanese banker may lend dollars to a Korean producer to purchase oil. If oil or other commodities continue to be priced in dollars, someone must bear an exchange risk. These issues or problems arise continually in financial markets. Neither their occurrence nor their solution depends on whether the U.S. is a creditor or a debtor. Further, the fact that the U.S. is, or will be, a debtor is a statement about its balance sheet. It does not imply that the U.S. will not be a net lender in the future.

What matters much more than debtor-creditor position is the cost borne by transactors using a particular money. The role of the dollar as an international money would decline if transactors become convinced that costs would be lowered by pricing and denominating oil, loans, and many other transactions in non-dollar currencies. A country's political and economic stability, or instability, affects these costs. A country particularly subject to coups, insurrections or revolutions would be unlikely to produce a re-

latively stable money, so costs of acquiring information would rise. A country with highly variable policies, variable rates of inflation, and economic instability would have relatively high costs of acquiring information. Relative instability lowers the quality of money, reduces confidence, and raises the cost of using a particular money as unit of account, medium of exchange and international reserve.

Debtor status could influence the use of money if a country borrows in its own currency, then inflates. Concerns about future inflation could raise the cost of using the dollar in the future. Past experience in countries with high inflation, or even hyperinflation, suggests, however, that established money continues to be used at least internally. This suggests, again, that costs of shifting to a different unit of account or medium of exchange are relatively high, although these costs are higher nationally than internationally. Available evidence on dollarization in Israel and some Latin American countries shows, however, that the presence of a currency with known properties speeds the adjustment to an alternative money within countries.

Growth in the use of alternatives to the dollar depends, also, on the policies of the countries (or private issuers) producing the alternative monies. If the new creditor countries follow mercantilist policies, such as lending internationally mainly to promote domestic expansion, tieing foreign loans to domestic purchases, maintaining barriers to trade, and restricting competition, international use of the new monies will be restricted.

I conclude that if variability is not substantially greater than that experienced in recent decades, the dollar will continue to serve as an international money. Other monies will be used, and perhaps will continue to grow in importance relative to the dollar. This is more likely to happen if the U.S.'s role in trade and payments declines relative to other countries and the other countries follow liberal trade and exchange policies. The problem for the international economy, then, is to develop a system that reduces risk of fluctuations in a multi-currency world toward the minimum arising from nature and trading arrangements. This raises the much discussed issue of monetary coordination and various proposals for coordination.

IV. Coordination as Intervention

Policy coordination has many meanings. The most common use, I believe, refers to efforts to coordinate policymakers' actions. Country A is headed toward recession or has a current account deficit. Country B has inflation and a current account surplus. The countries agree on a mix of monetary and fiscal actions by each country that is intended to move both countries toward a position of growth with low inflation and with current accounts nearer to balance.

This type of coordination should not be called policy coordination. Coordination is at the level of actions, not policies, so the more appropriate term is intervention. The presumption is that policymakers or their advisers know the mix of actions that is consis-

tent with equilibrium in both, or in some cases several, countries. Coordination of this kind attempts to adjust economies using forecasts and judgment in much the same way, but on a larger scale, than the efforts to control inflation by managing Phillips curves in the 1970s. The earlier policies failed, I believe, mainly because they substituted what economists would like to believe they know for what they actually know. The latter does not include detailed knowledge of the nature of shocks and the size of structural parameters required to design optimal mixes of monetary and fiscal actions that reduce risks to a minimum. Nor is their evidence that it includes ability to forecast output, prices, or current account balances with sufficient accuracy to reduce variability on average. Meltzer (1987) shows that average forecast errors are a large fraction of average changes in output and inflation. Although economist's forecasts are probably the best available, they cannot distinguish booms and recessions a quarter or a year ahead.

Consider the information required to coordinate the responses in two (or more) economies. The timing of responses to policy action differ across countries. Wage rates adjust to prices more rapidly in Japan than in the United States or Europe. Labor markets are commonly believed to be less flexible in the U.S. than in Japan but more flexible than in Europe. Countries produce different product mixes. For these reasons, expansions and contractions can give rise to short-term changes in relative prices and output. These differences stimulate capital flows and changes in exchange rates. Efforts to offset these movements by playing against an evanescent international Phillips curve require more information and greater forecasting accuracy than economists can claim reliably. We have not produced evidence showing that there is a reliable Phillips curve or that we can reduce variability and uncertainty by coordinated actions to expand or contract. We cannot speak with confidence on the effects of coordinated actions on short-term exchange rates, since we have not developed a theory capable of predicting short-term movements in exchange rates.

Much the same can be said about proposals to coordinate changes in the demand for money or in aggregate demand so as to maintain aggregate world demand rising at a nearly constant rate or to reduce fluctuations in world growth. A profession that cannot reach firm conclusions as to whether unanticipated changes are mainly shocks to aggregate demand or aggregate supply, or whether shocks are mainly permanent or transitory, even after the fact, does not have sufficient information to reduce variability by coordinating responses to unanticipated changes. Even if these difficult econometric problems could be resolved for particular samples, what reason would there be to claim that the distribution of shocks would remain constant in subsequent samples? Nothing in economic theory implies that the distribution of shocks is fixed or invariant to the structure of institutions in the domestic and the world economy. On the contrary, differences in the initial responses to fixed and fluctuating exchange rates depend on such structural features of the economy as the prevailing type of labor contracts or the flexibility of labor and product markets. These structural features are not givens. They depend, *inter alia*,

on the anticipations generated under a particular monetary or fiscal regime and on history or experience as it affects the credibility and reputation of the policymaker.

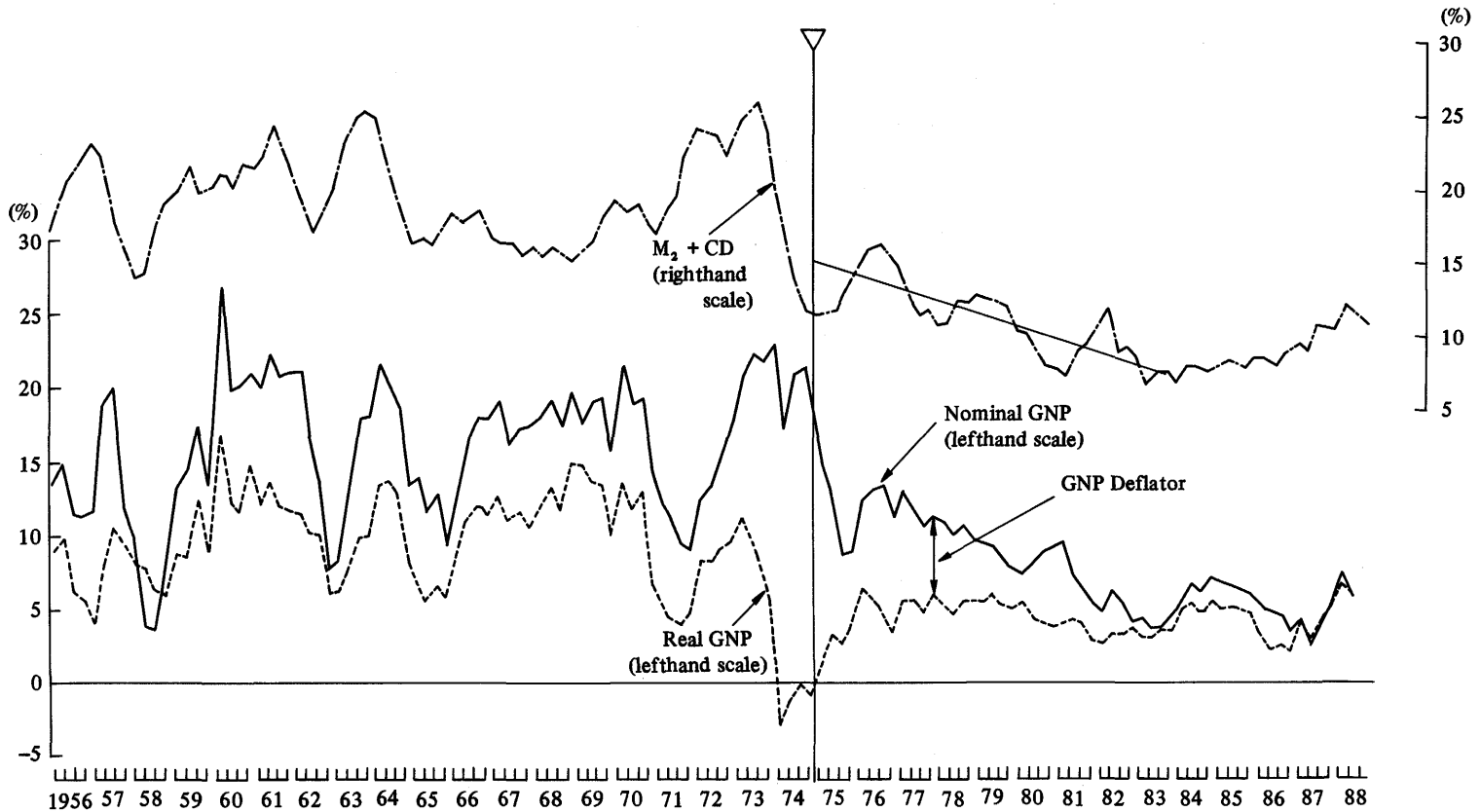
Comparisons of responses in Japan to monetary changes under fixed and fluctuating exchange rates illustrate the point.[3] From 1956 to 1973, under fixed exchange rates, there were relatively large fluctuations in money growth (M_2+CDs). After a few quarters, growth of nominal and real GNP and the rate of inflation seem to replicate the pattern of fluctuations in money growth. After 1973, Japan had a fluctuating exchange rate. Beginning in 1975, the Bank of Japan announced projections for money growth and attempted to hold money growth close to its projections. Fluctuations in money growth are smaller in this period than under fixed exchange rates, and fluctuations in real and nominal growth are smaller also. The trend rates of growth in money and nominal GNP declined at about the same average rate, and the rate of inflation fell to 1% or less. Under fluctuating exchange rates, real GNP growth is less variable and, prior to the Plaza agreement, appears to be less responsive to prior changes in money growth. The regime of fluctuating exchange rates and pre-announced monetary targets appears to have changed the short-term relation between money and real output by changing perceptions about policy, about the persistence of deviations from the trend rate of money growth, and about variability. The data hint that the short-term response of real GNP to money rose following the Plaza accord. Figure 1 shows some data that illustrate these differences.

This experience suggests that Japan was able to use monetary control in the fluctuating rate regime to reduce variability and uncertainty and to reduce inflation. Similar results have been found for Germany.

Recent literature on credibility suggests an additional way in which information about policy affects the timing of responses to policy actions across countries and over time. Let credibility be defined as the difference between the policymaker's plans and the public's anticipation of these actions. The smaller the difference, the more information the public has about policy, and the greater is the policymaker's credibility. The degree of credibility affects both the timing and the magnitude of some responses. A credible announcement that the policymaker intends to reduce inflation would be expected to generate a more rapid response of prices and a smaller temporary effect on real output. Comparative Japanese experience under fluctuating and fixed rates, just considered, is one example. Swiss experience provides another. A bulge in domestic money, following exchange market intervention, had little lasting effect on Swiss prices in the late 1970s. A plausible explanation is that the Swiss National Bank had a reputation for a policy of non-inflationary money growth, so the bulge was expected to be a temporary or transitory change. Considerations of this kind suggest that the public's initial beliefs about the permanence of a policy shock depend on the past history of policy.

[3]Data and comparisons are from Suzuki (1988). See also Meltzer (1985).

Figure 1. Money Stock and GNP (Nominal and Real) in Japan



Source: Suzuki (1988).

Notes: 1. Growth rates of money stock and GNP are calculated not against the previous quarter, but against the same quarter in the previous year.

2. "M_2 + CD" data (before 1979/I, "M_2" data) are an average of end-of-month observations. For example, the first quarter is an average of the data at the end of January, February and March.

Proposals to coordinate actions using a number of indicators to guide policy actions have drawbacks similar to those just discussed. The relation of indicators to actions and of actions to outcomes is not something on which economists have developed useful knowledge. Once we shift from long-term consequences to short-term effects, we confront the problems of forecasting and estimates of lags that have, until now, not been resolved using our increasingly sophisticated econometric techniques.

Proposals for the use of indicators have an additional drawback. Movements of most economic variables are difficult to interpret unambiguously. It would be interesting to see the model or framework that would be used to interpret some of the proposed indicators so as to learn whether their use would provide information that could be used to increase or reduce variability. This is needless to say, a difficult problem since the designation of a particular variable as an indicator would be likely to affect its covariance with other variables.

An alternative proposal calls for the use of target zones, or bands, within which nominal exchange rates are free to vary. At the band, countries are expected to intervene to keep the exchange rate from rising or falling further. Where real exchange rates are relatively constant, the target zone is a less efficient means of reducing variability than a fixed exchange rate. Where real exchange rates change in response to differences in productivity, perceived risks and other real factors, the target zone, like a fixed exchange rate, forces more of the adjustment to be made in labor and product markets. Where costs of production and prices change at different rates, real exchange rate adjustments are often a less costly means of adjusting prices and production costs than the adjustments in money wages and prices required by a target zone. It is not an answer to say that we can change the target band as required. We do not know the equilibrium real exchange rate. Economic theory does not tell precisely how to determine the market clearing prices for assets. Inevitably, there will be errors. Why should we expect variability to be minimized or reduced?

Some proposals for coordination or for target zones may be based on a vulgar error. The fact that real exchange rates vary more under fluctuating than under fixed exchange rates is not evidence of excessive variability or excess burden. Exchange rates are, at least in part, substitutes for adjustments in labor and product markets. Exchange rate adjustments are particularly useful when real shocks to productivity change equilibrium values of relative prices and wages. Evidence cited earlier suggests that output has been less variable in Germany and Japan (and has not been more variable in the U.S.) under fluctuating exchange rates than under Bretton Woods, despite the oil shocks of the 1970s and the recession of the early 1980s. Fluctuating rates may have reduced shocks from abroad, or provided the opportunity for more stable domestic policies, or increased the public's confidence that stabilizing policies would be followed in the future, or all of the above. Whatever the reason, or mix of reasons, future policy should not concentrate on the variability of exchange rates but should recognize the increased stability that some

countries have achieved under fluctuating exchange rates.

V. Rule Based Policy Coordination

Markets coordinate responses by adjusting prices. Fluctuating exchange rates coordinate real and nominal differences among countries. A valid case for international policy coordination cannot be based on policymakers' abilities to coordinate better than markets. The case for coordination depends on finding net benefits to society that can be achieved on favorable terms.

The case for monetary policy coordination arises from the opportunity to achieve jointly what individual country policy cannot achieve alone. There are two aspects. First, small countries generally cannot maintain domestic price stability acting alone. A large share of their consumption goods is imported, so they must depend on their trading partners to maintain price stability. As specialization and trade increase, imported goods have more weight in consumer and producer baskets in large countries. What is true of small countries becomes applicable to the large. Second, no country, large or small, acting alone, can maintain stability of both internal and external prices. Acting together, major countries can increase stability of external prices and provide a public good for small countries. If central banks in major countries—the U.S., Germany and Japan—follow a common policy rule that aims for domestic price stability, their individual efforts will reduce variability of nominal and real exchange rates.[4] In time, anticipations of sustained price stability would contribute to greater exchange rate stability also. Further, a common monetary rule expands the choice set for small countries. Under the rule, a third country can increase domestic price stability by fixing its exchange rate to a basket of major currencies.

Information cost is a main characteristic distinguishing types of coordination that are likely to be welfare improving and that are more likely to raise than to lower variability and uncertainty. Exchange of information among governments about policies, plans or interpretations is a low cost form of coordination that is now well established. Such exchanges lower costs of acquiring information and reduce uncertainty. Coordination by policy rule, if the rule is easily monitored, lowers the cost of acquiring information relative to agreements that coordinate discretionary policy action. Rules that do not rely on forecasts depend less on uncertain future events, are less subject to manipulation, and are therefore less costly to monitor.

A common policy rule can achieve some of the benefits of policy coordination while avoiding some of the costs. If the rule is adaptive, it can adjust to changes in the economy without relying on forecasts of future values. In the past, I have proposed a rule that maintains price stability on average and reduces fluctuations of exchange rates. The rule

[4]Mussa (1986) shows that export real and nominal exchange rate movements are correlated.

is adaptive; current money growth rises with the moving average rate of growth of output and falls with the moving average rate of growth of monetary velocity. The rule adjusts to changes in the growth rate, changes in the demand for money and in intermediation. The rule can be adopted by each country separately, but all countries can gain if the rule is used more widely.

McCallum (1988) used simulation to study the operating characteristics of a similar rule for a single country, the United States. Hall (1988) studied the characteristics of the rule in the United States, Germany, Japan and Canada. Their simulations suggest that an adaptive rule of this kind would have reduced variability for the United States and Canada but not in Germany and Japan. The finding that Germany and Japan did not reduce variability under the rule suggests that the proposed rule may not be an improvement over the policy rules used in those countries in recent years. One reason is that the policies followed by Germany and Japan are similar to the proposed rule. However, the studies to date do not consider either the additional reduction in variability that would arise from the use of a common rule by principal countries or the welfare gain to third countries from increased international stability.

In principle, fiscal policy can make adherency to a monetary rule impossible. Support for this proposition based on data for developed countries is weak. Countries as different as Canada, Italy and the United States have run persistent budget deficits while reducing inflation. Further, the effects of fiscal policy on interest rates have been hard to detect empirically. One reason is that issues about the proper measurement of fiscal policy have not been resolved. Clearly, there are other explanations including near-Ricardian equivalence or closely integrated capital markets.

The failure to find strong evidence of aggregative effects of fiscal policy on interest rates and prices does not mean that fiscal actions are irrelevant. Tax and spending decisions may have large allocative effects. They may bias spending toward consumption or reduce the efficiency of resource use. These allocative effects may influence welfare but have little importance for the choice of anti-inflation policy.

VI. Conclusion

This paper began by pointing to the above average gains in living standards achieved in many countries under the postwar order. I argued that the institutional arrangements—including GATT and the role of the dollar as an international money—contributed to those gains. Although these arrangements were not without flaws, they helped to make the past forty years a remarkable period in man's history.

Growth has not been uniform, so countries' relative positions have changed. Shifting patterns of trade, fluctuating exchange rates, and the emergence of Japan and Germany as major trading countries increased the importance of the mark and the yen as international currencies. More stable prices in these countries than in the U.S. increased the

benefits of diversification in reserve holding under fluctuating exchange rates. The development of trading areas in Europe, North America and Asia, as economies developed and matured, also encouraged the use of alternative monies.

The development of trading areas may be the start of a retreat from the multilateral arrangements of the postwar era toward a system in which country blocs have a larger role. A return to the instabilities of the interwar period is not inevitable, however. Beneficial postwar multilateral arrangements that encouraged trade and, for parts of the period, maintained reasonable price stability can be sustained by concerted action. Countries that have benefited most from the relatively open trading arrangements of the past forty years are in a position to take the lead in maintaining and extending the scope of the multilateral system.

The major countries can contribute to monetary stability and the growth of trade and living standards by strengthening trading rules, including rules for dispute settlement, and by agreeing on a common rule for monetary policy similar to the rules followed in Germany and Japan prior to the Plaza agreement. By following common rules, countries reduce uncertainty and costs of acquiring information and increase economic welfare. Efforts to coordinate policies of the emerging blocs using forecasts of GNP, target zones, or other ad hoc adjustments that require estimates or forecasts, are unlikely to be successful. Such efforts depend on information that economists and policymakers do not now have and are not likely to have reliably in the future. Further, prior agreement on policy rules reduces the conflicts that arise periodically between countries. The choice between rules and discretion for trade and finance will, I believe, make a critical difference to the growth and stability of the decades ahead, just as the rules of the 1940s contributed to the growth and stability of the past forty years.

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