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National Preferences and the Scope for International Monetary Reform

The international financial policy of the United States is at a critical juncture. The $35 parity, which became inappropriate in 1960 or 1961, became obsolete on August 15, 1971. The $42 parity is not operational without a substantial change in the basic features of the current payments arrangements. The communiqué to announce the Smithsonian Agreement noted that the participants would negotiate on a new international monetary system, and after the 1972 meeting of the International Monetary Fund, the Committee of Twenty was organized to provide a forum for the negotiations. One major issue in the negotiations is the future of the $50 billion of gold as international money; another is the future of the $60 billion of U.S. dollar-denominated assets in international reserves. Pending the outcome of these negotiations, the major countries may continue to permit their currencies to float.

The concern with reserve-asset arrangements is sometimes seen as secondary to developing more effective ways to reduce payments imbalances—to improving the adjustment mechanisms. A more systematic approach to changes in exchange rates will reduce delays in correcting fundamental disequilibria, and the optimal rate of growth in reserves will therefore be lower. But increased flexibility in the adjustment process will not eliminate the need for growth in reserves if exchange rates are pegged, nor will it resolve the future international roles of gold and the dollar.

While discussion of international monetary reform has been extensive for a decade, no consensus has been reached on the roles of gold and the dollar in the system. One reason is that analysts have differing views about the constraints upon the reform process. Many analysts implicitly ignore such constraints; they assert that, if all countries cooperate, the implementation of their proposals will resolve the problems of reserve adequacy and adjustment. Yet there are constraints, and they differ among countries. Countries are not indifferent to the size or rate of change of their payments imbalances, the measures used to adjust to imbalances, or the mix of reserve assets. If these national preferences could be altered without cost or limit, monetary reform would be a cinch;

any of the plans for reform current in the mid-1960's would be acceptable and workable. In the absence of constraints, reforming the system would be an exercise in aesthetics rather than in economics or politics.

Evidence from the negotiations of the 1960's—on the General Arrangements to Borrow, Special Drawing Rights, the exchange-rate system—suggests that most countries view reform of the system as an optimizing activity. In the SDR negotiations, for example, countries sought to maximize their benefits from the use of SDRs while minimizing their contractural obligation to accept SDRs in exchange for their own currencies. The positions are inconsistent for all countries as a group, for the workability of the SDR arrangement requires that the rights of countries to sell SDRs to others match the commitments of others to buy SDRs. Monetary reform is not a costless activity; countries are concerned with the distribution of economic welfare and the burden of initiative in making decisions. Inevitably, countries seek to advance their own interests in monetary negotiations, for this is what international politics is all about.

A second reason for the absence of agreement on the future roles of gold and the dollar, even when the conflicting interests of various countries are recognized, is that the objective function—the welfare function to be maximized—is ambiguous. Even if world welfare were the concern, the interests of individual countries would have to be weighed. Each country might have a weight of one, or a weight based on population, GNP, per capita GNP, or some other variable. As the weights change, so does the world-welfare function. Most analysts have an implicit world-welfare function in mind when discussing reform proposals, although they never discuss the weights. The negotiators for individual countries necessarily have a different set of weights from those of the analysts—or of the negotiators from other countries.

A necessary step in optimizing the system involves elaboration of the welfare function of individual countries. This essay is less ambitious, however, and discusses only the U.S. interest in international monetary reform. A floating exchange-rate system has been operative since February 1973, and the question is whether the United States has anything to gain under three alternative systems that involve pegged rates. These systems are defined by the number of international monies: The one-asset system includes only SDRs (used here as a generic term for any fiat international monies produced by an international institution); the two-asset system includes gold and SDRs; and the three-asset system includes dollars, gold, and SDRs. The assumption common to all three systems is that exchange rates are pegged, with somewhat wider support

limits and greater flexibility for changes in parities than in the pre-1971 arrangements.

Section 1 reviews the monetary history of the 1960's. Section 2 examines the U.S. national interest in the process of monetary reform. The costs and benefits to the United States of the three competing international systems are discussed in section 3.

1. The U.S. Role in the Operation of the Gold-Exchange Standard

The problem for the United States in managing the gold-exchange standard was to maintain a relationship between the monetary price of gold and the commodity price level so that a change in the dollar price of gold—the price connecting the two reserve assets—would not be necessary. The stability of this relationship was threatened by changes in the demand for one of these assets relative to the supply. For many countries, the two reserve assets were not good substitutes; these countries were not confident that the monetary price of gold and the exchange-rate structure were fixed forever. The traditional explanation for the growth of the gold-exchange standard was the desire to economize on the use of gold in reserves; on this view the countries that chose to hold currencies as reserves rather than gold were acting in the interests of the system, and not necessarily in their own interests. But the development of the system can also be explained in terms of governments' self-interested responses to the question: Given the source of our imports, which asset best serves our needs for an international store of value?

Countries acquire reserves so as to be able to finance imports during periods when their export earnings fall short of the payments required to finance imports. Their choice of reserve assets reflects their desire to minimize the risks resulting from a decline in the purchasing power of their reserves in terms of their future imports. Thus a country would minimize its risks by holding reserves denominated in the currencies whose prices would vary least in relation to the prices of their imports.

A country whose imports came largely from the United States could minimize its exchange risks by holding dollar-denominated reserve assets. If the dollar were devalued in terms of the country's own currency or in terms of gold, its wealth would not be adversely affected: the value of its reserves in terms of future imports would be unchanged, and it would have the benefit of the interest income on dollar assets. A country whose imports were more diversified would be reluctant to hold all its reserves in dollar assets, since the value of its reserves in terms of its future imports might decline if the dollar were devalued relative to the currencies of the countries from which it obtained its imports. Since it would

be cumbersome to match reserves with the mix of countries supplying imports, a country with diversified imports might instead hold its reserves in the asset least likely to decline in value in terms of currencies in general. Gold was one such asset, for the value of gold in terms of currencies could decline only if a foreign country revalued its currency relative to gold, and, prior to the 1960's, such revaluations did not occur. Any country holding gold as a reserve asset could insulate the purchasing power of its reserves from losses due to an increase in the dollar price of gold, in effect a devaluation of the dollar in terms of the currencies of the countries supplying their imports. For these countries, the desire to minimize the risk of loss would tend to be more important than the interest income on dollar assets.

Thus the growth of the multiple-asset reserve system was a consequence of the fact that countries had different sources of imports. The countries in the dollar bloc were those for which the United States was a principal source of imports, while the countries in the gold bloc obtained imports from a wider range of countries. Some countries diversified their reserves, holding gold and dollars because their imports were diversified, coming partly from the dollar bloc and partly from outside the bloc. Diversification of reserve assets is a form of risk avoidance for countries whose imports come from varied sources. The shares of gold and dollars in their portfolios could be viewed as varying with the interest rate on dollars assets, the estimate of the probability that the dollar price of gold might change, and the sources of their imports.

The United States had a unique role in the management of the post–World War II gold-exchange standard, for it had control over both the monetary price of gold and the world commodity price level.

Control over the monetary price of gold stemmed from the fact that any change in the dollar price of gold would induce other countries to change by the same percentage the price of gold in terms of their currencies. No other country could effect a worldwide change in the price of gold by raising the price of gold in terms of its currency, as General de Gaulle realized to his chagrin. Instead, if France had doubled the franc price of gold, the resulting payments surplus would eventually have led to price inflation in France, which would have continued until the new exchange rate became an equilibrium rate. The response of countries to a U.S. initiative would differ from the response to an initiative by others because the payments imbalances resulting from unilateral changes in the price of gold would have been small in terms of the U.S. economy but much larger in terms of other economies.

Control by the United States over the world commodity price level resulted from two factors. First, the U.S. economy was a very large part of the world economy; changes in the U.S. price level had a significant impact on the world price level because of the weight of the former in any world price-level index. If other countries followed more expansive monetary policies than the United States, increasing their price levels more rapidly than did the United States, they would eventually have had to devalue their currencies. Second, other countries were reluctant to revalue their currencies, and they tended therefore to import the U.S. inflation. If they wanted to inflate less rapidly than the United States, they were obliged to revalue their currencies.

United States control over the monetary price of gold and over the commodity price level meant that the U.S. authorities indirectly controlled the major economic variables affecting the supply and demand for gold, and hence changes in U.S. gold holdings. Whether the United States bought or sold gold depended on the relationship between its monetary price and the commodity price level, and the impact of this relationship on gold production, the private demand for gold, and the foreign official demand. The excess of private and foreign official demand over new production led to a more or less continuous decline in the U.S. gold stocks in the 1950–70 period. The higher the commodity price level relative to the monetary gold price, the smaller the volume of gold production, and the larger the private demand for gold, because gold then became less expensive relative to other commodities. Moreover, the higher the commodity price level relative to the monetary gold price, the larger the demand for reserves, and the larger then the foreign official demand for gold.

The official demand for gold in various foreign countries depends on the level of their reserves, the interest rates on dollar assets, the authorities' expectations about the future dollar price of gold, and whether they would peg their currencies to gold or to the dollar if the dollar price of gold were changed. The higher the interest rates on dollar assets or the greater the confidence in the stability of the dollar price of gold, the larger the foreign official demand for dollar assets. Higher interest rates on dollar assets might thus offset decreased confidence in the stability of the dollar price of gold.

Throughout the 1960's, foreign-owned reserves increased. Had this been solely a demand for dollar assets, the United States could have satisfied it without limit. But the United States, which was the major source of the growth in foreign gold holdings, could not continually satisfy the foreign demand for gold. In the short term, increases in U.S.

interest rates might offset the increased vulnerability of the U.S. reserve position, so that the pace of U.S. gold sales would decline. But interest-rate policy was not a viable long-term approach to reducing U.S. gold sales.

In retrospect, analysis of the U.S. international financial problem was subject to several sources of confusion about management of a multiple-asset system. One was a delayed recognition that, until 1967 or 1968, U.S. payments deficits and gold sales reflected a shortage of alternative sources of reserves, and not the overvaluation of the dollar relative to other currencies, U.S. inflation, or the shortcomings of U.S. domestic policy. The large U.S. payments deficits of 1970 and 1971 merely advanced the date of an inevitable change in the dollar price of gold.

The second source of confusion centered on a failure to understand the economic rationale for the foreign official demand for gold. Preferences for gold were viewed as traditional or even irrational; it seemed inane to choose a "barbarous relic" instead of income-earning dollar assets that paid 4, 5, or 6 per cent. And even when the demand for gold was accepted as rational, it was interpreted either as an economic club to force the United States to curb its payments deficit, so that the surplus countries would be spared the need to take the initiative in reducing their surpluses, or as a political club to reduce U.S. prestige by forcing suspension of gold convertibility.

The preference for gold, despite the high opportunity cost of holding it, really meant that there was a substantial implicit yield attached to it, or that an international reserve portfolio containing gold was deemed less risky than a portfolio consisting solely of dollar-denominated reserves. We have seen that, for some countries, holding gold as a reserve asset serves to minimize the risk of loss in terms of future consumption bundles. Another long-run advantage is that gold retains value as a commodity even if demonetized, for it can be sold in commodity markets. Finally, some foreign central banks are concerned that, sooner or later, the U.S. authorities might subject foreign-owned dollars to exchange controls. In effect, foreign official preferences for gold imply less than complete confidence in the credibility of U.S. commitments to maintain the future value of their dollar assets—skepticism that received support when the United States suspended gold sales in August 1971.

A third source of confusion concerned the mechanisms available for keeping two types of reserves—gold and dollars—in circulation simultaneously. One approach involves periodic variations in the dollar price of gold, as happened with gold and silver during bimetallic periods. A second approach involves variations in the commodity price level, per-

haps as a response to a change in the demand for one of the reserve assets. For example, if the increase in the demand for gold leads to a shortage of international money, the shortage will induce a decline in the commodity price level, stimulating gold production and reducing the private demand for gold. The foreign official demand for gold will also decline. The homeostatic mechanism underlying the automatic stabilizers will ensure that the supply of gold changes in response to the demand, provided the commodity price level is flexible.

If the commodity price level is fixed, increases in the demand for gold may cause its implicit price to rise above its monetary price. Gold will then be hoarded. Consequently, the monetary price must be adjusted periodically to ensure that neither asset is hoarded. In the short run, an increase in interest rates on dollar assets might increase the demand for dollars relative to gold. But if foreign reserves are increasing secularly, continued increases in interest rates on dollar assets will be necessary to neutralize the increase in the foreign demand for gold and forestall the need for an increase in the monetary price of gold.

If the monetary price of gold is to remain stable in the long run, changes in the commodity price level are necessary to ensure that the supply of gold changes in proportion to the demand. If the commodity price level is fixed or rising, increases in the monetary price of gold will be necessary to ensure that gold and dollars remain in circulation simultaneously, in the absence of new gold discoveries or a reduction in the gold preferences of other countries.

The fact that a change in the dollar price of gold was necessary has been attributed incorrectly to the role of the dollar as a reserve asset, or to its derivative role as numeraire or intervention currency. A change in the dollar price of gold might have been necessary even if the dollar had not been a reserve currency, unless the United States had permitted the demand for gold by other countries to determine the world price level. If other countries achieve payments surpluses to satisfy their demand for international reserves, the United States incurs mirror-image deficits, and if gold is the only international money, the surplus countries will buy gold from the U.S. Treasury. To prevent eventual exhaustion of U.S. gold holdings and move the system back to equilibrium, the United States either had to deflate until the decline in world commodity prices meant that existing gold stocks were adequate or increase the dollar price of gold, triggering an increase in terms of other currencies, which would lead to a reduction in the demand for gold and an increase in the supply.

It is sometimes argued that if the dollar were not an international unit

of account or numeraire, the U.S. authorities might have been free to devalue the dollar successfully. Two reasons are offered. The U.S. authorities would have been less reluctant to change the foreign-exchange value of the dollar, and there would have been less likelihood of other countries countering an increase in the dollar price of gold with equivalent increases in terms of their currencies. The United States does not have the same freedom as others to change the foreign-exchange value of its currency, in part because many other countries prefer to peg their currencies to the dollar, in effect permitting the United States to determine their price levels. The United States cannot devalue the dollar successfully relative to currencies pegged to the dollar. This is true whether or not the dollar is a numeraire.

Less frequently, it is argued that the dollar's role as an intervention currency forced the change in the dollar price of gold. Assume, however, that the intervention currency were the Mexican peso rather than the U.S. dollar. The U.S. authorities would then support the dollar in the exchange market by selling pesos and would sell gold to the Bank of Mexico to obtain pesos for intervention in the exchange market. If, at the same time, countries in payments surplus were acquiring more pesos from their interventions than they wished to hold, they would sell some of their excess pesos to the Bank of Mexico in exchange for gold. The Bank of Mexico would in turn sell to them the gold obtained from the U.S. Treasury. The United States would sell gold because the United States had a payments deficit, not because the dollar is an intervention currency.

The gold-exchange standard of the 1960's did not break down by itself. The U.S. authorities failed to make it work. Around 1960, the symptoms of a worldwide gold shortage appeared; the monetary price of gold was too low relative to the commodity price level. The problem was inherent in the system, which lacked a mechanism for adjusting the supply of gold to changes in demand. The dollar was not then overvalued in relation to other national currencies; instead, given world reserves and the preferences of other countries, all currencies were overvalued relative to gold. The U.S. authorities were unable to alter the gold preferences of foreign central banks, unwilling to deflate the U.S. and world commodity price levels, and unwilling to accept an increase in the monetary price of gold. So the U.S. gold parity became unrealistic. Consistency among the gold preferences of foreign central banks, the niggardliness of nature, and the world commodity price level—hence national monetary policies—required either a higher price of gold in terms of all currencies or a change in the system itself.

2. Monetary Reform and the U.S. National Interest

The process of monetary reform involves changing the "rules of the game" for financing and adjusting to payments imbalances. The purpose of monetary reform—of adopting one set of rules and discarding another—is to reduce uncertainty about the future values of economic variables such as the exchange rate, the size of payments imbalances, exchange controls, the composition of reserves, and the rate of reserve accumulation. Rules narrow the scope for national discretion. Without rules, each country could alter without formal constraint the values of variables under its control—although it might be informed by its trading partners that they resented the external impact of its policies. Rules prevent countries from taking actions they might otherwise adopt, and they compel countries to take certain actions that they might otherwise avoid. Rules reduce the options and hence the amount of uncertainty about the size of financing for imbalances and about the means used to adjust them.

The constraints that a country accepts in agreeing to the rules are advantageous to its trading partners. Each country accepts rules that constrain its future actions in the belief that it will gain from similar constraints on other countries. By reducing uncertainty, the rules increase the confidence with which private investors and government officials can plan for the future.

The U.S. authorities must decide whether monetary reform will encourage the achievement of U.S. national objectives, both economic and political. Since February 1973, the international monetary system might be called the limping dollar standard. The United States follows a policy of "benign neglect"; its monetary and fiscal policies are directed to domestic objectives without concern for the external balance. The United States is not obliged by formal or informal commitments to initiate a change in the foreign-exchange value of the dollar. Other countries peg their currencies to the dollar or allow them to float; some also use direct controls to regulate international payments. The U.S. payments balance mirrors the sum of the payments balances of other countries; the United States has a payments deficit because other countries have a surplus.

The advantage of the limping dollar standard to the U.S. authorities is that they are no longer under pressure to limit dollar outflows, because there is no longer a commitment to peg the price of the dollar to gold. But there are costs to the United States, for the suspension of gold sales by the U.S. Treasury has made it easier for other countries to ignore the

rules of the International Monetary Fund system in formulating their international monetary policies. Some countries have adopted multiple-exchange-rate practices, while others with floating currencies have intervened extensively in the exchange market. And some central banks have sought to insulate further their domestic monetary systems from capital flows by more elaborate exchange controls. The system—if there is a system—features an *ad hoc* approach to adjustment.

The U.S. national interest is served by monetary reform only if the new monetary agreement promises to provide benefits to the United States greater than its costs. This cost-benefit comparison involves political factors and their trade-off against economic factors. The limping dollar standard is a useful benchmark for appraising the costs and benefits of monetary reform to the United States. Monetary reform will benefit the United States if the economic and political costs will decline with the move from the limping dollar standard or if the United States will realize more of certain benefits under the new arrangements.

Under the limping dollar standard, the United States shares in the cost to world efficiency of exchange controls and multiple exchange rates used by other countries to regulate their international payments—as well as the cost of U.S. exchange controls. These measures distort the relationship between U.S. prices and foreign prices; the United States and its trading partners depart from Paretian optimality. Moreover, because of uncertainty about exchange controls and about potential differentials between exchange rates applied to current-account and capital-account transactions, foreign trade and international investment are deterred. If reform is to benefit the United States, it must reduce significantly the adjustment costs borne by the United States.

The United States incurs additional economic costs under the limping dollar standard if its payments balance, especially its trade balance, varies sharply. In 1970 and 1971, as excess capacity developed within the U.S. economy in response to the monetary contraction of 1969, unemployment was substantially above target levels. The large increases in imports led to reductions in employment in import-competing industries, such as autos and steel. More expansive monetary and fiscal policies would not have solved the sectoral unemployment resulting from the surge in imports; these policies would have expanded the economy, but not the sectors that were especially hard hit by imports. A similar argument might be made about sharp surges in U.S. payments surpluses. The U.S. domestic economy cannot be readily manipulated to neutralize the sectoral impact of changes in U.S. payments balances attributable to eco-

nomic events abroad.[1] Benign neglect is not a viable short-run policy if the large U.S. trading partners export their recessions and their booms. The United States might benefit from reform if it reduced the size of the payments surpluses and deficits that other countries might incur.

Finally, the United States incurs certain political costs under the limping dollar standard, for the U.S. position toward international monetary arrangements has created antipathy in some foreign governments and increased the cost of attaining various U.S. foreign-policy objectives. Costs are associated with the 1971 demonetization of gold, for the monetary value of foreign-owned gold stocks is now in question. Costs are also associated with the asymmetric exchange-market pegging arrangements of the limping dollar standard, for the countries that have pegged their exchange rates believe that the United States enjoys a unique advantage in not being compelled to peg the dollar to an external asset. And those that favor pegged rates but allow their currencies to float believe that they are forced to follow second-best policies because of a unilateral U.S. decision.

The alternatives to the limping dollar standard involve pegging the dollar to some other international asset, either gold or the SDR. Foreign central banks want the dollar pegged to an external asset for several reasons. The United States will be quicker to take measures to reduce any large U.S. payments deficit, thus decreasing foreign governments' share of the cost of decisions to reduce the payments imbalance. Moreover, pegging would enhance the moneyness of their gold stocks. But pegging introduces a constraint on U.S. policy: The United States must either constrain its domestic policies in order to maintain the peg, or take the initiative in altering the foreign-exchange value of the dollar. If recent history is a guide, U.S. authorities are not likely to manipulate monetary and fiscal policy to conform to external considerations. Instead, they are likely to change the foreign-exchange value of the dollar, either through variations in exchange controls or through changes in the exchange rate of the dollar. As costs are associated with these changes, the U.S. authorities will prefer to minimize their number.

[1] It is frequently said that the United States should be willing to run large payments deficits, which can be financed by selling liquid dollar assets; the exchange of paper assets for real assets is said to be favorable to the United States. In effect, the U.S. monetary authorities are managing monetary policy abroad. To assert that this is favorable to the United States is to assume that there are no constraints on domestic monetary policy, and that domestic resources move readily among industries. Because consumers of imports do not compensate displaced workers in the import-competing industries, the economy as a whole cannot be said to be better off.

The benefit to the United States from incurring the costs associated with pegging the dollar is that other countries may then rely less on exchange controls for balance-of-payments adjustments. Exchange-rate pegs may change more frequently, cumulative payments imbalances may be smaller, and the United States may gain because of smaller disturbances to U.S. sectors that produce import-competing goods. Finally, foreign-policy advantages may result from U.S. participation in a monetary system that involves pegged exchange rates. The more easily foreign governments can convert their excess dollars into some other reserve asset, the smaller their dissatisfaction with U.S. foreign economic policies.

To determine whether the United States will gain from participating in reform, one must specify the nature of the new monetary arrangements, decide whether the United States is more likely to be in payments deficit or surplus, and weigh the foreign-policy advantages of the new arrangement against possible economic costs. It is appropriate to assume that U.S. monetary and fiscal policies, and the rates of domestic inflation and unemployment, will not be sensitive to the move from the limping dollar standard to a system involving pegged exchange rates. Whatever the new arrangements, there will be benefits to U.S. industries adversely affected by large swings in the trade balance, since the permissible size of other countries' imbalances would be smaller with a system based on rules. And the costs to economic efficiency of adjusting to payments imbalances might be smaller in a rule-oriented regime, because the most costly methods of adjustment may be prohibited.

The costs to the United States of the move to a system of pegged exchange rates are those associated with the requirement that, from time to time, the U.S. authorities must initiate changes in the external value of the dollar. Certain domestic political costs are incurred by such changes, and because of the reluctance to incur them, the U.S. authorities might employ a variety of exchange controls, as in the 1960's. In addition, foreign-policy costs might be associated with financing an imbalance prior to any change, and with the change itself. The seriousness of the costs depends on the frequency with which the United States must take such an initiative—and that in turn depends on the rules of the new monetary system.

3. The U.S. National Interest and Alternative Monetary Regimes

In this section, three plans for monetary reform are appraised in terms of their impact on the U.S. national interest. There are common elements in these plans: Each involves a move off the limping dollar standard and an obligation by the U.S. authorities to peg the foreign-exchange

value of the dollar. Moreover, the move to each new arrangement involves a transition during which adjustments must be made to ensure that there is an initial equilibrium relationship among the reserve assets and that holders of demonetized assets do not incur losses.

The key transitional problems involve the future roles of gold and the dollar. If gold is demonetized, an arrangement is needed to prevent its price from falling sharply. Conceivably, gold could be funded into SDRs. If the dollar is demonetized, an arrangement is needed to cope with the $60 billion of reserves held by foreign central banks. These holdings might also be funded into SDRs.

The post-transition problem centers on the determinants of the growth rate of international reserves. From the U.S. point of view, the key question involves ascertaining the relationship between the supply of and demand for reserves that will minimize the costs of achieving U.S. national objectives. The demand for reserves will reflect the adjustments made during the transition. Thus, if gold and dollars are demonetized and not funded into SDRs, the post-transitional demand for reserves may increase as countries seek to rebuild reserves to desired levels. If they are funded into SDRs, the rate of growth of SDRs may decrease, because some central banks may feel their SDR holdings are too large. And if the adjustments made during the transition lead central banks to have doubts about the future value of reserves, their demand for reserves, and thus the rate at which SDRs are produced, will decline.

The Economics of the SDR System

The most far-reaching proposal for monetary reform involves the move to a system with one international reserve asset; gold and the dollar would be phased out as international reserves. One advantage of this system is that the growth of reserves would no longer depend on accidents of nature or the decentralized decisions of individual countries; instead, an international authority would decide on the rate of growth of SDRs. Nor is there the potential instability associated with a multiple-asset system, for the SDR authority would never be obliged to sell gold for SDRs. Another advantage of the one-asset system is its symmetry—the role of the dollar in the international system is comparable with that of the mark, the yen, and the lempira.

The SDR would be the international money, in a class by itself. It would be the unit of account; the par value of each national money would be expressed in terms of the SDR. SDRs would be the international store of value for central banks and the medium of exchange among them.

As a money, the SDR initially would be inferior to gold, for the moneyness of gold is well established. Nevertheless, countries favor the SDR system, although for different reasons. Those with a tendency toward payments deficits favor the SDR system because they would share in the seigniorage. Those with a tendency toward surpluses favor this system because a limit would be set to the supply-determined U.S. deficit, and the greater the pressure on the United States to reduce its deficit, the smaller the pressure on the surplus countries to reduce their surpluses. The United States favors the SDR arrangement because it would then have greater freedom to alter the foreign-exchange value of the dollar.

Participation by the United States in the SDR arrangement is essential. An SDR cannot be directly spent; rather, it would be used to buy national monies, largely for exchange-market intervention. Just as some countries once sold gold to the U.S. authorities to get the dollars for intervention, so they would need to sell SDRs for dollars.[2] Without a U.S. commitment to accept SDRs, the arrangement would founder, for few central banks would acquire or hold them. If Australia or Zambia refused to accept SDRs, other countries would probably not be concerned, for they could sell their SDRs for dollars. But if the United States refused to accept SDRs, most countries would be reluctant to hold them, since they have minimal need for Australian dollars or Zambian kwacha. Just as the dollar was once said to give value to gold, so the dollar would give value to the SDR. The SDR system would not work unless the largest country in the system made its currency readily convertible into the international money.

The major inducement to the United States to participate in the SDR arrangement is the greater freedom to alter the foreign-exchange value of the dollar; if the dollar were no longer used as an international unit of account or as a reserve asset, foreign countries might be less likely to follow a devaluation of the dollar in terms of the SDR with devaluations of their own currencies. A secondary and somewhat related advantage is that the United States would no longer be obliged to initiate a change in the monetary price of gold. The importance of the first advantage would depend on the frequency with which the United States incurred supply-determined deficits. The importance of the second advantage would depend on the frequency with which the monetary gold price would have to be raised if gold were retained in the system.

[2] Either the dollar would be the intervention currency, or private parties must be permitted to hold SDRs. Every payments system requires that private parties be allowed to buy and sell freely the asset used as the intervention currency.

A question central to the operation of the gold-exchange standard can also be asked about the SDR system: Is the United States likely to be subject to a demand-determined deficit? The answer depends on the amount of SDRs generated relative to the demand. The annual production of SDRs would be determined by a multilateral agreement in which each country would participate through a weighted voting process. Under previous monetary arrangements, when the growth in the stock of reserves was not under conscious control, countries selected various assets as reserves because they anticipated that these assets would retain value in terms of their own future imports. Under the SDR system, stability in the value of the SDR might be one of the considerations in the decision by each country as to how rapidly the stock of SDRs should grow, but it would not be the dominant factor. Each would be concerned with the impact of various rates of growth of SDRs on the financing of its own balance-of-payments position. Countries likely to be net users of SDRs—those that believe they are more likely to be in payments deficit than in surplus—would favor rapid growth to maximize their seigniorage gains. Countries likely to be net accumulators of SDRs would favor slower growth, thereby to shift to the deficit countries the pressure to take initiatives to reduce imbalances, as well as to protect the value of the SDR and its purchasing power in terms of national currencies.[3]

The developing countries would be in the first group, while most of the countries of Western Europe would be in the second. Western European countries would want to keep the rate of SDR production low to protect both the value of the SDR and its moneyness; their concern would reflect their desire to reduce the likelihood that any large country (e.g. the United States) might refuse to buy SDRs. The European interest would be served by minimizing both the rate at which new SDRs were produced and the amount allocated to the developing countries. The U.S. interest would be served by the rate of growth of SDRs that minimized the frequency with which the United States would have to initiate a change in the foreign-exchange value of the dollar.

The attitudes of various countries toward the desired growth rate of SDRs would not necessarily be consistent with their views about the rate at which they wanted their own holdings of SDRs to increase. The developing countries would favor a rate of growth of SDRs more rapid than the projected increase in their SDR holdings. And the Western European countries might wish their holdings of SDRs to increase more rapidly than new SDRs were produced.

[3] An interest rate linked to changes in the price level might be attached to the SDR. But this arrangement would raise questions about the financing of interest payments.

If the volume of SDRs generated was small relative to the volume the Western European countries wished to acquire, some countries, including the United States, would incur demand-determined deficits. And U.S. holdings of newly produced SDRs might be virtually exhausted before a supply-determined U.S. deficit occurred, as happened in the 1960's with U.S. gold holdings. Paradoxically, the United States might find it more difficult to finance a supply-determined deficit under the SDR arrangement.

Thus the United States might be obliged to take the initiative in changing the dollar price of the SDR so as to change the foreign-exchange value of the dollar. Managed growth in the volume of international reserves does not guarantee a rate of growth that will maximize employment, achieve price-level stability, or enable the United States to attain payments balance. The slower the growth of the supply of SDRs relative to the demand, the more frequently the United States might have to change the foreign-exchange value of the dollar. In this context, devaluation may be viewed as an indirect attempt to increase the supply of reserves relative to the demand—and would offset the political decision limiting the growth in SDRs. Successive increases in the price of SDRs in terms of national currencies would enable countries as a group to increase the currency value of the stock of SDRs to compensate for limits on the rate of SDR growth, much as the beggar-thy-neighbor devaluations in the 1930's were a roundabout way to secure a worldwide increase in the price of gold.

Alternatively, if the growth rate of SDRs were too rapid, the United States might accumulate a substantial amount. If the United States were not then successful in using its political influence to reduce the rate of growth of SDRs, it might be obliged to revalue the dollar in terms of the SDR. In this case, foreign central banks would find the dollar more attractive than the SDR and would tend to shift out of SDRs into near-reserve dollar assets.

For the United States, the net benefit of the SDR system in terms of an enhanced ability to alter the foreign-exchange value of the dollar must be weighed against the possible disadvantage of having to raise the monetary price of the SDR because its growth rate is too slow. The value of the advantage depends on how frequently the U.S. price level is likely to rise more rapidly than the levels of its major trading partners, so that a U.S. initiative in changing the dollar price of the SDR is necessary to adjust to a supply-determined deficit. Absent this circumstance, the advantage would be academic. And the disadvantage of the SDR arrangement is that the United States might be obliged to take more

frequent initiatives to alter the foreign-exchange value of the dollar in response. Demand-determined deficits might be less likely to occur under a different system in which the United States had greater control over the rate of growth of reserves.

The Economics of the Three-Asset System

The sharpest contrast to an SDR system involves retaining gold and dollars as reserve assets, together with SDRs. This system has certain advantages. The transitional problems are smaller, in that the adjustments necessary to ensure that all three assets circulate as reserves are less demanding than those involved in demonetizing gold and the dollar. In the post-transition period, moreover, individual countries could satisfy their diverse preferences among reserve assets.

The key problem in the three-asset system, as in any multiple-asset system, is to ensure that changes in the supply of each asset match changes in the demand. Thus, the return to equilibrium in the market for gold during the transition would require an increase in the monetary price of gold. The new and higher gold price would itself be appropriate only if U.S. gold holdings increased along with the gold holdings of other countries. If the United States must sell gold to satisfy the demands of other countries, then the new price is too low; if the United States buys gold, then the monetary price may be too high relative to the commodity price level. An increase in the monetary price of gold during the transition would also affect the foreign official demand for dollars. The tendency toward a reduced demand for dollars as a result of the increase in total reserves caused by the gold revaluation would be offset by an increase in the demand for dollars as a result of the portfolio effect: some countries would believe that their gold holdings were too large relative to their dollar holdings, and would switch from gold to dollars. Even if some countries used the occasion of an increase in the monetary price of gold to reduce their dollar holdings, the United States would be in a better position to repurchase these dollars as a result of the sharp increase in U.S. gold holdings.

There is no assurance that a new monetary price of gold would remain the appropriate price for an extended period, especially if the commodity price level were rising. Taking the commodity price level as given, the monetary price would have to be raised in response to a supply-determined U.S. deficit. After the gold price was increased, the United States would be likely to acquire gold; thereafter it would sell gold. The smaller the increases in the monetary price of gold, the more frequently they must occur. Thus there is a cycle in the distribution of gold, and the United

States acts as a buffer stock; the length of the cycle depends on the size of the increase.

In this system, the United States must take the initiative in raising the monetary price of gold. An increase in the monetary gold price would be necessary whenever the United States sold gold for an extended period, especially if few of the surplus countries believed their payments surpluses and gold purchases were too large. A U.S. initiative would also be required to change the foreign-exchange value of the dollar to adjust to a supply-determined U.S. payments deficit.

Under the three-asset system the supply of reserves would probably grow more rapidly than under the one-asset system, both because of diversity in the sources of reserves and because the United States had more unilateral control over the supply, so that the likelihood of demand-determined deficits would be smaller. Thus, while one disadvantage of the three-asset system from the U.S. point of view is that U.S. initiative is required to change the monetary gold price, the need for such U.S. initiatives is likely to be more frequent under the one-asset system. Under both systems, the United States would be obliged to take the initiative in changing the foreign-exchange value of the dollar in response to supply-determined deficits. The frequency of such deficits is likely to be independent of the system. But the United States might be in a better position to finance a supply-determined deficit under the three-asset system.

The Economics of the Two-Asset System

The move to a two-asset system, gold and SDRs, involves phasing out the dollar as an international reserve asset, presumably by funding part or all of foreign-owned dollar assets into SDRs.[4] Under this system, the countries with a strong preference for gold would continue to hold it—although not necessarily in the amounts desired. And the countries with a preference for dollar-denominated assets would not be able to satisfy their preferences, even though they wished to keep their currencies pegged to the dollar.

During the transitional period, an increase in the monetary price of gold would be necessary so that gold would again circulate as a reserve asset, and measures would have to be taken to demonetize the dollar holdings of foreign central banks. Since it seems unlikely that the balances would be reduced substantially by U.S. payments surpluses,

[4] Three issues are involved in funding the overhang: the interest rate on the dollar assets held by the SDR agent, the maintenance-of-value guarantee, and the impact of the future U.S. payments position. If the United States is required to repay these balances, it must secure a payments surplus.

demonetization would involve funding of dollars into SDRs, much as under the one-asset arrangement.

From the point of view of foreign countries, the two-asset system has some of the advantages of the one-asset system. They would participate in seigniorage profits, and there would be a limit to a supply-determined U.S. payments deficit. The advantage to the United States of the two-asset system is the greater freedom to alter the foreign-exchange value of the dollar, much as under the one-asset system.

The two-asset gold-SDR system differs from the two-asset gold-exchange standard in several important ways: (1) The supply of SDRs increases on a determined, managed basis, and not in response to the decentralized portfolio decisions of various central banks; (2) the SDR is not directly convertible into gold, while dollars were convertible; and (3) the price relationship between the SDR and gold is fixed, whereas the price relationship between gold and the dollar was variable.

The gold-exchange standard lacked a mechanism to obtain the appropriate mix of the two assets once the gold parity and the commodity price level were fixed. Under the two-asset, gold-SDR arrangement, the same problem might arise; the demand for gold might exceed the supply. The SDR-producing authority might stipulate that the two assets were perfect substitutes and respond by increasing the growth rate of SDRs.[5] But the holders of reserve assets might not be convinced that the two assets were perfect substitutes, for they are subject to very different default risks. The central banks would know that SDRs had no value in commodity markets, that surplus countries had a limited obligation to buy them, and that the likelihood of revaluation profits from an increase in the monetary price of gold was smaller if they held SDRs than if they held gold. Consequently, if the demand for gold were greater than the supply, countries would seek to earn gold from each other; the implicit price of gold in terms of SDRs would rise above the fixed price. Gresham's Law would operate as various countries sought to finance their payments deficits in SDRs and their payments surpluses in gold.

One response to a shortage of gold would be to enhance the attractiveness of the SDR by increasing its interest rate. Another would be to increase the monetary price of gold, so that every country could satisfy its demand for gold.

Unless the monetary price of gold were raised, the United States might encounter a demand-determined deficit much as under the three-asset system, and would be required to raise the monetary price of gold,

[5] The assumption implicit here is that there is never a uniform change in par values—that the policy response to any gold shortage is to increase the supply of SDRs.

much as under the three-asset system. In comparison with the three-asset system, the advantage of the two-asset system for the United States is the increased ability of U.S. initiatives to change the foreign-exchange value of the dollar (because the dollar would no longer be a reserve asset and serve as a unit of account), and the disadvantage is the increased frequency with which the United States might be obliged to devalue in response to a demand-determined deficit (because the rate of growth of reserves would be smaller under the two-asset system). The United States would gain a possible advantage in adjusting to a supply-determined deficit, since it would be somewhat easier to change the foreign-exchange value of the dollar. But it might have to devalue more frequently to cope with a demand-determined deficit than under a three-asset system. In comparison with the SDR system, the advantage of the two-asset system is that demand-determined deficits are likely to be less frequent; the disadvantage is that a U.S. initiative would again be required to change the monetary price of gold. The two-asset system appears to outpoint the one-asset system, unless supply-determined deficits are likely to be persistent. It appears in turn to be surpassed by the three-asset system in the calculation of the U.S. interest.

The political costs of the two-asset system would be smaller than those of the SDR system, since countries with a strong preference for gold could continue to satisfy their reserve needs. Countries with a preference for dollar-denominated assets would be less well off, although the reduction in their well-being seems substantially smaller than the reduction in well-being of those with a preference for gold if they were required to hold SDRs. But foreign support for the two-asset system—because it reduces the size of a supply-determined U.S. deficit—is one reason why this system would be less advantageous to the United States than the three-asset system.

4. Conclusion

International monetary reform consists of developing treaties that constrain countries' autonomy by preventing them from taking certain actions and compelling them to take others. Such a treaty could lead to a reduction in the number of reserve assets. But this is not likely and, even if it happened, countries would probably not alter their behavior in response to payments imbalances or their preferences among reserve assets.

The U.S. national interest is served if participation in the new system leads to a favorable change in the cost-benefit relationship, economically and politically, compared with the U.S. position under the limping dol-

lar standard. A move off the limping dollar standard involves pegging the dollar to some other international assets. The economic costs are incurred by the misallocation of resources attributable to trade and payments barriers and the sector disruption attributable to large swings in the trade balance; these costs appear smaller under the pegged-rate system than under the limping dollar standard. Domestic monetary and fiscal policy are unlikely to be sensitive to the change in the system. Foreign-policy considerations suggest that the United States might gain if it agrees to a system that provides for pegged exchange rates and enhances the moneyness of the gold and dollar holdings of foreign countries, whether these holdings continue to be used as reserves or are funded into some other asset. The costs to the United States of participating in reform are those associated with U.S. initiatives to change the dollar price of gold and the foreign-exchange value of the dollar.

Any move off the limping dollar standard means that the United States may be obliged to alter the foreign-exchange value of the dollar and, if gold is a reserve asset, the monetary price of gold. Such changes might be necessary in two different circumstances—when the United States has a demand-determined deficit, and when it has a supply-determined deficit. The U.S. interest is served by initiating as infrequently as possible changes in the monetary price of gold and the foreign-exchange value of the dollar. When the political decisions that determine the rate of growth of SDRs are inconsistent with the economic decisions governing the demand for reserves, the United States may be obliged to devalue the dollar in terms of an international asset, not because U.S. price performance is inappropriate, but because the other countries force a deficit onto the United States.

Each of these systems has implications for how frequently the United States might be obliged to initiate a change in the value of the dollar in terms of some international asset. The rate of growth of reserves appears likely to be slower under the one-asset SDR system than under the three-asset and two-asset systems, so the likelihood of a demand-determined deficit is greater under that system.

The U.S. interest is served by an increase in its ability to devalue the dollar—and this ability is greater under the one- or two-asset system, in which the dollar is not a reserve asset, than under the three-asset system. Offsetting devaluations by other countries are more likely if the dollar remains a reserve asset and a unit of account. Whether the United States will need to devalue the dollar in response to a supply-determined deficit depends on whether U.S. prices rise more rapidly than those in other countries. In the absence of supply-determined deficits, the value of this

advantage is academic, and the U.S. interest is served by reducing the likelihood of demand-determined deficits.

Which system is most likely to be in the U.S. interest thus depends on the prospective growth rate of reserves under each system and on developments in international competitive positions and relative price movements in the United States and abroad. The slower the rate of growth of SDRs and the more successful the United States in achieving price stability relative to its trading partners, the stronger the case for retaining the three-asset system. In contrast, the more rapid the growth in SDRs and the less impressive the U.S. price performance, the stronger the case for moving to a one-asset system.

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