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Capital Flows and Exchange-Rate Flexibility in the Post–Bretton Woods Era

The movement of exchange rates has increased considerably in the early part of the post–Bretton Woods era. This increase does not necessarily imply increased flexibility of exchange rates, however. True flexibility of exchange rates would require that trading nations begin from a position of general balance-of-payments equilibrium and permit subsequent two-way changes in the relative prices of national monies to resolve balance-of-payments disequilibria. Exchange-rate movement from May 1971 to June 1973, a period during which the U.S. dollar was effectively devalued against other Group of Ten currencies by a weighted average of about 19 per cent, was largely one-way and did not begin with a general balance-of-payments equilibrium.

This one-way movement has resulted largely from a sharp change in U.S. international economic policy, leading the United States to take steps to improve its balance of trade. The United States considers improvement in its balance of trade necessary if it is to balance its overall payments in the presence of large and chronic net outflows of capital. An overall balance of international payments is also necessary if the reserve-currency role of the dollar is to end. Indeed, it may be that, in its quest for an improved trade balance, the United States has already gone a considerable distance toward exchanging the reserve-currency role of the dollar for the ability to alter the exchange rate of the dollar.

Yet, a sharp realignment of exchange rates may eventually prove to be unnecessary. This essay will attempt to show that the high level of long-term capital outflows from the United States that developed under the Bretton Woods system was to a large extent attributable to the long-maintained disequilibrium in exchange rates which prevailed under that system. If this is true, a realignment of the U.S. dollar against other currencies sufficient to finance a continued high level of capital outflows may instead produce a chronic overall surplus for the United States. Capital outflows would fall in response to a chronically undervalued U.S. dollar.

Such a possibility would not be cause for concern if exchange-rate flexibility were permitted, because the dollar would appreciate. Furthermore, if the current-account surplus required by the United States for overall balance-of-payments equilibrium is smaller than needed to finance invariant long-term capital outflows, the inconsistency of the

industrial countries' balance-of-payments goals (and therefore exchange-rate goals) may in fact be considerably smaller than originally believed. A major test of the current sympathy for exchange-rate flexibility will come if and when it is found that the U.S. dollar has become undervalued and should float upward against other major currencies. It would be a major policy error, after a long period of disequilibrium exchange rates, to accept only a transitional, one-way movement of exchange rates.

There are those who would welcome a chronic balance-of-payments surplus for the United States. The phrase "it's our turn for a surplus" was frequently heard in U.S. government circles shortly after August 15, 1971. There are two powerful reasons against seeking to maintain a surplus for the United States. The first is that the addition of the United States to the list of countries actively seeking balance-of-payments surpluses would exacerbate the international inconsistency of policy goals. The second is related to internal economic policy. A chronic current-account surplus is likely to produce inflationary pressure because it reduces the supply of domestic goods, since there is a net outflow of goods to foreigners. At first, some substitution toward future goods may occur in the form of purchases of domestic or foreign bonds; this would constitute a type of "forced saving" induced by a relative scarcity of current goods. Once asset stocks are increased, however, consumers will eventually come to desire more goods currently. The cases of Germany and Japan in recent years come particularly to mind. In the most recent round of worldwide inflation, the United States has fared best, while surplus countries such as Germany and Japan have poor records. Although the surpluses of these countries have by no means been solely responsible for the sharp inflations, they have undoubtedly been important causes.

Concern with the possibility and dangers of a chronic U.S. surplus may seem far-fetched in a period of continuing U.S. balance-of-payments deficits. To decide whether a foundation for such concern exists, section 1 of this essay considers the atmosphere of the early 1970s in which U.S. balance-of-payments policy was changed. Section 2 develops the hypothesis that there is a relationship between a long-maintained disequilibrium exchange rate and long-term capital flows. The major danger implied by this hypothesis is shown to be the possibility that exchange rates may be re-pegged at levels that would yield a chronic U.S. balance-of-payments surplus. Section 3 extends the case against re-pegging exchange rates by citing some of the difficulties that have already arisen from this practice. In addition, general arguments are advanced against proposals for more international liquidity that are often associated with discussions of re-pegging. Finally, flexibility of

exchange rates is defended by responding to some frequently posed objections to the policy.

1. Background for the "New Economic Policy"

Proximate and Fundamental Reasons for the "New Economic Policy" Initiatives

The internationally oriented aspects of the U.S. "New Economic Policy" initiatives of August 1971 marked an end to what had become an essential feature of the Bretton Woods system: a passive balance-of-payments policy by the United States as a reserve-currency country. This policy had led to rising purchases of foreign goods and long-term securities by U.S. residents, financed largely by an accumulation of short-term claims on the United States by the central banks of many of its trading partners. While some objections arose to the level of dollar claims some foreign central banks had to hold, the revealed preference of those central banks was to accumulate dollars.

There were at least two reasons. First, and more superficially, dollars were a relatively attractive asset. They paid interest and carried something of a goods-value guarantee by virtue of the gold-exchange guarantee. While exercise of the right to convert dollars into gold had to be limited, existence of the guarantee gave foreign dollar holders some leverage with which they could obtain other kinds of assets like Roosa Bonds (see Makin, 1971). These, in turn, could carry a local-currency guarantee. Dollar assets were also attractive because of the huge dollar financial markets in Europe and New York, which allowed very large purchases and sales of dollars with little impact on the rate of return.

The second reason why some foreign central banks were willing to accumulate large quantities of dollars is more fundamental. The exchange rates they were pegging by accumulating dollars were at levels that assured ample markets for their export industries. Throughout the 1960s, countries like Germany and Japan, in particular, experienced persistent surpluses because of dramatic growth in their export-oriented industries. High employment in such industries was an excellent way to absorb any unemployment in the domestic sector.

In addition, since an undervalued exchange rate results in some forced savings by attracting resources into the traded-goods sector and inducing a scarcity of nontraded goods, further capital formation in traded-goods industries is encouraged. Consumers find that foreign current goods are relatively expensive owing to the high price of foreign money, while domestic current goods are relatively expensive owing to the flow of resources away from domestic-goods industries into traded-

goods industries. But the demand for capital by expanding export industries keeps interest rates high (which makes future goods relatively cheap), so more is saved. The accumulation of reserves by the central bank mirrors the forced savings by the private sector. The general conclusion is that a central bank that has attracted resources into export industries, particularly in the form of highly specialized and long-lived capital equipment, cannot permit a large change in exchange rates. Such a change could produce a precipitous drop in the value of the marginal product of resources that are not easily employed elsewhere. Hence the "benign neglect" notion, which suggests that countries wishing to stop accumulating dollars can merely stop buying them, overlooks the difficulty regarding resource reallocation that may face countries that have been accumulating dollars.

Dunn (1973) has also considered the impact of chronic undervaluation on a chronic-surplus country and emphasized the resultant movement of capital into the tradable-goods sector as a "distortion of investment patterns in surplus countries." Dunn notes that, for such distortion to occur, fiscal and monetary policy must be employed to maintain the desired level of aggregate demand in the presence of continued surpluses. Dunn recognizes that prompt exchange-rate adjustments could also prevent a distortion of investment patterns. But capital is not the only resource that will move into traded-goods industries. Labor will move as well, and therein lies a significant reason for the reluctance of governments to reverse sharply a policy of undervaluation.

The notion that exchange rates may matter little owing to a low elasticity of demand for many export products might be expected to mitigate some fears about the disruptive reallocative effects of exchange-rate changes. Yet many central banks display some ambivalence on this point. When flexibility of exchange rates is suggested as a means to accomplish balance-of-payments adjustments continuously over time, central banks frequently observe that exchange rates matter little and will not accomplish adjustment without wide swings in rates. However, when confronted with an exchange-rate change as a simple means to end an accumulation of "unwanted" dollars, central banks are reluctant to stop buying dollars for fear that the subsequent increase in the prices of their currencies will harm exports.

The reasons that have been given to explain the willingness of foreign central banks to continue accumulating dollars are particularly meaningful in explaining the significance of the U.S. policy initiative when we consider in addition the reasons behind that initiative. First, consider the proximate cause for the U.S. action of August 1971. The rate at which central banks were being forced to accumulate dollars in

order to peg existing exchange rates had been rising sharply since the end of 1970. Interest rates fell sharply in the United States during 1970, and the resulting reflow of funds to the Eurodollar and European capital markets resulted in a large flow of dollars into European central banks, particularly into those supplying "strong" currencies like the mark, the Swiss franc, and the guilder. The crisis period really began in May 1971, when heavy inflows forced a float of the mark and the guilder, while the Swiss franc was revalued by 7 per cent. These developments may have been made more likely by an increase in the annual rate of expansion of the U.S. money stock from 5.7 per cent in the February 1970–January 1971 period to 11.6 per cent in the January 1971–July 1971 period. Dollar accumulation by foreign central banks rose from an annual rate of $7.5 billion in the third quarter of 1970 to $25.9 billion in the second quarter of 1971.

In fairness, it should be noted that the United States was trying to reabsorb the dollars that had flowed abroad. The U.S. Treasury and the Export-Import Bank conducted large borrowings in the Eurodollar market. In addition, as was noted in April of 1971 by Fritz Machlup and others, some of the large increase in recorded U.S. dollar liabilities to foreign central banks reflected double counting, because central banks were depositing dollars in the Eurodollar market.

It might seem that the massive increase in dollar liabilities to foreign central banks constituted a primary reason for an end to the convertibility of the U.S. dollar into gold. But this financial phenomenon, though it was important, as indicated by U.S. efforts to mitigate it, was only a proximate cause. The more fundamental cause, largely missed at the time in the presence of conspicuous financial symptoms, was the U.S. desire to initiate an active balance-of-payments policy, particularly with regard to its trade balance. The second quarter of 1971 showed a deficit at an annual rate of $3.6 billion in the U.S. trade balance, the largest deficit that had been reported up to that time. This figure was seen to point up the need for U.S. government action designed to improve the competitive position of U.S. producers in domestic and foreign markets. The 10 per cent import surcharge included in the U.S. program of August 1971 was meant to dramatize the intent of the United States to pursue an active balance-of-payments policy, particularly with regard to its trade balance.

Taken as a whole, the program was designed to clear the way for a dollar devaluation. The strategy was to face the foreign central banks with a clear choice: "Either continue to accumulate dollar claims on the United States at your own risk with no option to convert into gold or allow the dollar price of your money to rise." As painful as it

apparently was, all eventually chose the latter option to some degree while continuing to accumulate large quantities of dollars to keep currency appreciation against the dollar at a minimum. In the third quarter of 1971, foreign central banks accumulated dollars at an annual rate of $47.7 billion. By December 1971, a weighted average of the appreciation of major currencies[1] against the dollar had reached about 8.5 per cent and the annual rate of accumulation had fallen to $23.8 billion. In effect, the Smithsonian Agreement merely re-pegged the rates at about the levels obtained during the transitional float in the fall of 1971. As it has turned out, this action was premature.

Problems Resulting from Inconsistent Balance-of-Payments Goals

The negotiations between August and December 1971 were difficult and discordant because the parties involved had fundamentally inconsistent goals; consequently, they focused upon less relevant problems to avoid facing these inconsistencies. The inconsistency of goals was basically due to the widespread desire for balance-of-trade surpluses. The United States' trading partners had already emphasized their concern about U.S. policy by accumulating dollars to peg their exchange rates. Their real concern was to maintain an exchange rate consistent with large exports. The United States was primarily interested in a set of exchange rates that would afford a sizable turnaround in the trade balance (some put the figure as high as $13.0 billion). Thus, nearly all parties wanted a set of exchange rates giving them a surplus (or smaller deficit). It was as if the United States, which in its passive stance had permitted the Bretton Woods system to function, had suddenly caught the fever for surpluses that had possessed its trading partners for some time. This may have seemed odd in view of the fact that the United States was enjoying extra consumption, given the bargain prices of foreign money, while able to borrow at quite reasonable rates to finance a consumption boom. But while U.S. consumers were benefiting, U.S. producers in the tradable-goods industries were facing an effective tax that made it difficult to compete with foreign producers. A danger existed, however: The desires of U.S. producers of tradable goods and of U.S. policy makers seeking a trade surplus sufficient to finance large capital outflows could coincide to push the United States to seek an excessive dollar devaluation from the standpoint of balance-of-payments equilibrium. To see the reason, it is necessary to consider the impact upon resource allocation of a long-maintained disequilibrium exchange rate, such as had existed for the United States up to August 1971.

[1] Canadian dollar, Japanese yen, German mark, British pound sterling, Italian lira, French commercial franc, Dutch guilder, Belgium convertible franc, Swiss franc, and Swedish crown.

2. Capital Flows and Disequilibrium Exchange Rates

Impact of Overvaluation upon Foreign Direct Investment

Consider a country that has been in balance-of-payments equilibrium (defined as a condition under which the value of goods and bonds sold abroad is equal, at the fixed exchange rate, to the value of goods and bonds purchased abroad) but is now subject to an exogenous shock and finds itself with an overpriced money. A balance-of-payments deficit ensues. Let the disequilibrium exchange rate be maintained over a long enough period for resources to move in response to the relative-price message implied by the disequilibrium price for foreign exchange.[2] What are the resource-allocation costs of a disequilibrium exchange rate maintained for a long period, and what effects will there be on the domestic (and foreign) economies?

First, consider the implications for traded *goods*. Traded goods include import substitutes and exports. They must compete with foreign goods either in the home market (import substitutes) or abroad (exports). For traded goods, an overvaluation of domestic money implies a subsidy to foreign competition and/or a tax on domestic producers. The effect of overvaluation will be to reduce the size of the markets available to producers of traded goods, reducing the demand for factors employed by firms in the traded-goods industries, particularly the demand for factors employed intensively by these firms. Direct investment abroad may result from chronic overvaluation if highly durable capital that is mobile only within an industry is part of the redundant capital of the traded-goods industries. In effect, the economic life of such specialized capital may exceed the interval of time over which access can be had to world markets at fixed exchange rates.

The connection between foreign direct investment and chronic overvaluation can be seen by considering the behavior of a firm in the traded-goods industries.[3] Suppose that the level of investment by firms in the traded-goods industries has been geared to the larger markets available at home and abroad under an equilibrium exchange rate. Suppose also that the typical firm employs, along with raw labor and raw capital, highly specialized managerial capital and technology. Technology is a

[2] The costs in terms of distorted relative prices of current goods arising from disequilibrium exchange rates have been examined by Hause (1966), Krueger (1966), and Johnson (1966). It is possible that a disequilibrium exchange rate may be maintained for some time without causing resources to move enough to imply large resource-misallocation costs. This suggests that a fruitful line of research may involve identification of an optimum degree of exchange-rate flexibility over time. I have examined this question in Makin (1972a) and Makin (1973b). See also Grubel (1973).

[3] No attempt is made here to present a complete theory of foreign direct investment. Many studies are available. The most complete listing can be found in Stevens (1973).

durable and very mobile form of capital, as is the managerial expertise that is embodied not so much in particular managers as in the firm's ability continually to train effective managers.

Overvaluation of the domestic currency shrinks the size of the domestic and foreign markets available to the firm, resulting in some redundancy of the firm's productive capacity. The raw labor and capital might possibly be employed at home in the production of nontraded goods. However, the managerial and technological capital represents a fixed or "sunk" cost that cannot readily be reduced by employment in other industries at home. Unit costs may be reduced by moving the redundant portion of that capital abroad in order to set up production facilities and thereby restore the size of the market area that can be reached by the firm. In effect, the highly specialized capital moves more easily over distances than across industries. It is worth noting that the association suggested here between foreign direct investment and employment of sophisticated capital is supported by empirical evidence produced by Severn and Laurence (1973) which strongly suggests that firms engaged in foreign direct investment tend to be in research-intensive industries.

What is being suggested here is that an increase in foreign direct investment in response to overvaluation represents a second-best alternative for the firms involved. The first-best situation existed when original investments were undertaken on the basis of an equilibrium exchange rate and involved domestic production and sales in domestic and foreign markets. The second-best alternative arises when the firm must preserve its markets by producing abroad in order to spread the fixed costs associated with investment in specialized technological and managerial capital.

How far from optimality the second-best situation will be depends upon the ease with which the redundant factors of production can be transferred to alternative employment. In the ideal situation, the firm will transfer its redundant specialized capital abroad, sell its redundant raw capital at home to producers of nontraded goods (whose markets are likely to be expanding), and then purchase raw capital abroad with the proceeds. To the extent that raw capital at home cannot be transformed efficiently into raw capital abroad (owing, say, to the necessity to sell some redundant raw capital at a loss), the firm will employ the most efficient available capital market to borrow the funds required to purchase raw capital abroad. Either way, direct investment abroad will rise.

U.S. policies have in some cases compounded the costs associated with overvaluation. Attempts by U.S. firms to finance foreign direct

investment in U.S. capital markets have been hampered by the Foreign Direct Investment Program. This program, designed to limit access to U.S. capital markets for U.S. firms with foreign operations, was begun in 1965 and administered by the Department of Commerce, first on a voluntary basis and then on a mandatory basis beginning in January 1968. It is ironic to note that when some countries are faced with a balance-of-payments deficit as a result of an overpriced money, they attempt to deal with it by restricting foreign direct investment. The Foreign Direct Investment Program accomplishes this by forcing U.S. firms to employ second-best financial intermediaries to finance what may in some cases be second-best projects that have been made necessary by chronic overvaluation.

The case for fixed exchange rates rests on the supposition that they will encourage the free flow of capital and goods. Yet when private capital tries to move in response to a persistently maintained disequilibrium exchange rate, the view appears to be that its movement must be prevented or at least hampered. In addition, the deficit on current account caused by an overvalued currency often produces a call for taxes on imports in the form of quotas, tariffs, or export subsidies. Surely this seems odd, for an overvalued currency implies a subsidy to imports and a tax on exports. Such proposals amount then to a tax on a subsidy and a subsidy to a tax. The financial authorities are forced into this absurd position by attempting to maintain a disequilibrium rate of exchange. The entire problem could have been avoided by permitting the exchange rate to move in the first place.

The attempt to rationalize an increase in direct investment abroad associated with overvaluation has relied thus far entirely upon the deterministic, neoclassical theory of a firm's constrained profit-maximizing behavior. The reasoning therefore predicts a once-for-all reallocation of capital by a single firm. However, the process may continue over some time owing to different levels and rates of change of overvaluation with respect to the different foreign markets confronted by different firms in different industries.

A continuing increase in foreign direct investment in the face of chronic overvaluation may also be rationalized by some of the extensions of neoclassical theory in which the firm's objective is taken to be something other than strict profit maximization. As domestic firms identify overvaluation with respect to one currency or group of currencies, expectations may develop regarding the appreciation of other foreign currencies against the home currency. In such a case, the acquisition of physical capital abroad may be expected to yield capital gains in terms of the currency in which the investor denominates his assets. In addition,

firms that acquire foreign affiliates may discover that the stream of foreign-currency returns from these activities in not perfectly correlated with the stream of returns from operations at home because of changing conditions in the markets for goods at home and abroad or because of changing conditions in the currency markets. Thus, direct investment abroad may yield diversification gains by reducing the variability of profits. These gains may not by themselves be sufficient to induce investment abroad, but once acquired, along with better information about foreign operations, they may be sufficient to induce additional direct investment abroad aimed largely at gains from diversification.

A further extension of neoclassical theory suggests that firms attempt to maximize total sales revenue rather than profits.[4] The reason is taken to be a relationship between total sales and a combination of factors, including managerial salaries and security and ease (cost) of attracting capital. Under this approach, sales are maximized given the constraint that profits not be permitted to fall below a certain minimum rate. Such a theory can rationalize production beyond the point where marginal cost equals marginal revenue. Given such an objective function, a firm seeking to maximize sales in the face of a growing overvaluation of the home currency and a resultant shrinkage of home and foreign markets may increase investment abroad even though marginal cost exceeds marginal revenue.

The simultaneous impact abroad of an overpriced domestic money will be a subsidy to the foreign traded-goods sector. Initially, the shift of demand to that sector may produce an increase in the prices of its goods, depending upon the elasticity of supply. This would tend to mitigate the impact of the overvalued rate of exchange upon the deficit country's balance of payments. But if the overvalued rate persists, the higher prices of traded goods will draw resources into these industries in foreign countries. Short-run supply schedules will shift out along the more elastic long-run supply schedule, relative prices will fall in the traded-goods sector, and the current-account deficit of the country with an overvalued foreign exchange rate will rise. The likelihood of these events increases, the longer a disequilibrium exchange rate can be maintained by running down reserves or by borrowing.

Impact of Overvaluation on Financial Capital Flows

Now consider the impact of an overvalued currency upon the financial capital accounts. Since there is an output subsidy to foreign tradables and a tax on domestic tradables, there will be pressure to expand output in

[4] See Horowitz (1970), Chap. 10, for a full discussion of alternative profit maximization as the firm's objective.

the foreign tradable-goods sector. To some extent, resources may be drawn from foreign nontradable industries, but the possibility will be limited in a growing economy. A demand for credit to expand tradable-goods production is likely to develop abroad, driving up foreign interest rates. Domestic rates, moreover, are apt to fall in the face of excess capacity in the traded-goods industries. The resulting interest-rate differential will cause capital to flow out of the economy with an overvalued money. This will, of course, exacerbate the deficit in the balance of payments already evident in the current-account and direct-investment sector. Given these developments, the only degrees of freedom for the domestic economy are reserve losses and increases in short-term liabilities to (borrowing from) foreigners. The latter are possible on a large scale, however, only if foreigners are willing to accumulate a large stock of short-term claims denominated in the overvalued currency.

The problem with large increases in short-term liabilities in the case of a reserve-currency country is that a confidence problem is likely to arise. In August 1971, this process reached the point where the United States was forced to end even nominal convertibility of its short-term liabilities into gold. As other currencies underwent parity readjustments, the dollar link to gold impeded a change in the dollar parity. With that link broken and with currencies floating to some degree in the fall of 1971, central-bank intervention in exchange markets was aimed only at limiting the amount of dollar depreciation against selected currencies.

General Impact of Overvaluation upon Capital Accounts

The implications for the capital account of a country with an overvalued exchange rate are (1) large long-term capital outflows to finance expansion of foreign capacity in the tradable-goods sector; (2) direct-investment capital outflows, instigated by domestic producers of traded goods in an attempt to set up foreign facilities in order to fully employ specialized capital; and (3) heavy short-term borrowing from foreigners at what is likely to be an increasing cost. The heavy short-term borrowing, if conducted by a reserve-currency country, will eventually precipitate a convertibility crisis of the type that occurred in 1971. It should be added that (1) and (2) will be likely to occur quickly in a country with a well-developed and sophisticated set of financial markets and institutions.

Attempts are apt to be made to repress the first two symptoms by controls on capital flows. An interest equalization tax, a "voluntary" credit-restraint program, and controls on direct foreign investment were all imposed by the United States during the 1960s. These short-sighted policies are costly and have been largely unsuccessful. Large capital

outflows have continued from the United States. Attempts to prevent an outflow of capital (which would be reduced by an equilibrium rate of exchange) creates a further discrepancy between domestic and foreign interest rates that either swamps the effect of the tax or provides powerful incentives to evade controls. This mechanism accounts for the tendency for "voluntary" controls on capital flows to become "mandatory" controls. Of course, such controls are always "temporary." But we have seen both empirically and theoretically that the chance for success of temporary controls is reduced by the resource movements induced by the relative prices implicit in a disequilibrium rate of exchange. In addition, controls on capital flows abroad are likely to impede the exports of the country imposing them, particularly if that country enjoys a comparative advantage in supplying short-term credits for financing trade because of its well-developed financial sector and its unique currency. This was the case with the United States and the dollar.

The Relationship between Reserve Stocks and Exchange Rate Policy: The Impact on Capital Flows

While this notion is developed further in section 3, it should by now be evident that implicit in larger reserve stocks is a longer period over which resources can move in response to a disequilibrium exchange rate. Given an initial overvaluation, moreover, they will move in a manner that only worsens the balance of payments. The trade balance deteriorates, direct investment abroad rises, and long-term capital outflows rise. The resultant outflows necessitate either large reserve losses, large short-term borrowing, or controls on capital flows. Large short-term borrowing will also require higher interest payments as the level of liabilities to foreigners rises and the expectation of a devaluation comes to be held more firmly.

The overall picture appears so gloomy because huge reserves and reserve substitutes can permit the maintenance of a disequilibrium exchange rate long enough to weaken seriously the tradable-goods sector of a reserve-currency country. If, further, the country is a major buyer in foreign markets, its policy will have provided a large subsidy to foreign producers of tradables, making successful competition with foreigners even more difficult to achieve. Rapidly rising labor costs for such foreign producers may be a symptom only of rapidly expanding tradable-goods industries. With wages rigid downward in a chronic-deficit country, there is little hope for a relative gain, especially if the growing foreign capital stock raises labor productivity abroad.

In effect, the marginal product of additional official reserves is likely to be negative when the impact upon the variability of income is adjusted downward for the level of income. The impact of reversible payments imbalances upon the variability of income should, at any rate, be susceptible to offset by private financing. This would permit a market judgment regarding the imminent reversibility of a payments imbalance, rather than an arbitrary *ex ante* judgment. Additional adjustments to irreversible balance-of-payments disturbances require changes in exchange rates.

Implications for U.S. Policy toward Exchange Rates

I have tried to suggest by means of a theoretical sketch of the quasi-fixed-parity Bretton Woods system the reasons for the configuration of the U.S. balance of payments in the 1960s. Reasons have also emerged for foreigners' extreme resistance to change once the United States took the initiative to end the passive balance-of-payments stance that was fostered by its ability to conserve reserves by increasing claims on itself. The most important conclusion arising from this analysis is that capital outflows from the United States are likely to be reduced as the overvaluation of the dollar disappears.

That overvaluation may already have disappeared, given the 19 per cent (weighted) average devaluation of the dollar already achieved against the currencies of the major trading partners of the United States. If this is correct, an improvement of the U.S. trade balance may be accompanied by a gradual reduction in capital outflows from the United States, and, if this occurs, it will be necessary to permit the dollar to move upward on foreign-exchange markets in order to avoid a chronic U.S. surplus. Barring the market flexibility that would allow this movement, major U.S. trading partners can be expected to devalue their currencies unilaterally. Were such moves taken in the face of "fundamental" balance-of-payments disequilibria, the United States would be unwise to follow with its own devaluation. The very reason for leaving the decision to market forces emerges in this context from the difficulty of obtaining an adequate definition of a "fundamental" balance-of-payments disequilibrium.

Finally, it should be noted that the theoretical sketch given here should not be taken to imply that long-term capital flows (or short-term capital flows which may be used to finance long-term flows) would cease or even approach zero in a world of equilibrium exchange rates. Differences in liquidity preference, in financial-capital abundance, and in rates of return to real capital would continue to be reflected in the inter-

national movement of real and financial capital. One would expect, however, that there would be some reversal over time in the direction of capital flows in a world where exchange rates were free to change along with other prices. Since capital flows mirror the movement of resources to areas of highest marginal return, one would expect that purchases and sales of currencies arising from purchases and sales of goods and securities would, in a free market, produce changes in the relative prices of monies. These changes, along with changes in rates of return attendant upon capital movements, would preclude chronic capital flows in one direction of the kind that continued from the United States during the 1960s.

The danger envisioned above in connection with a possible over-devaluation of the U.S. dollar will of course evaporate if no widespread official action is taken to re-peg exchange rates at some "appropriate" level. However, the actions of some central banks in the wake of the Smithsonian Agreement of December 1971 suggest that the desire to re-peg is far from dead. Therefore, it seems appropriate to discuss some of the difficulties associated with recent attempts at re-pegging. It is also worthwhile to discuss some of the shortcomings of arguments for increased reserves, since such recommendations frequently accompany arguments for re-pegging. Finally, the case against re-pegging and more liquidity can be buttressed by anticipating objections to increased exchange-rate flexibility.

3. Re-Pegging, Liquidity, and Adjustment

The Bearing of Recent Events on the Undesirability of Re-Pegging

The very first line of commentary by the London *Economist* upon the Smithsonian Agreement of December 1971 reads: "The most important point about the new pattern of world exchange rates is that it will not last for long" (Dec. 25, 1971, p. 10). It is hardly surprising that events have borne out the prediction. The period from August to December 1971 was a time of indecision by central banks, commonly known as "dirty floating." Central banks of surplus countries stayed out of the exchange markets until the rate movement became, in their view, too large for the well being (rates of return) of resources that had been attracted to their traded-goods sector by long periods of undervaluation. Deficit countries, too, appeared concerned lest their exchange rates move too far (over the short run) in a direction contrary to aiding their perceived balance-of-payments goals. There is considerable evidence that the private sector was able to live with the system of limited official intervention even though central banks were not. My own discussions with

foreign-exchange dealers regarding problems encountered in the fall of 1971 suggested no substantial reduction in spot-market business attendant upon more exchange-rate variability. Spreads were wider and transactions costs were therefore higher, but transactions continued to take place. Corporations faced with long-run planning problems acquired foreign assets of up to five years' maturity as provision for future exchange needs rather than deal through the forward markets.

A set of rates such as the Smithsonian rates that is locked in after a four-month transitional float during which central banks absorbed about $12.8 billion is not likely to last. As has been noted, the basic difficulty is that, in August 1971, the United States joined the majority of major trading countries in adopting an active surplus-oriented balance-of-payments policy.

When balance-of-payments goals are inconsistent because of surplus seeking, the resultant pressure is felt first by deficit countries: Where reserve changes reflect balance-of-payments disequilibria, reserve losers must generally act to end imbalance before reserve gainers. So it was with the British in June 1972. As a balance-of-payments crisis built up, the British simply set the pound free to float. This, of course, substituted a change in the price of British money for a change in the quantity of its dwindling reserves as a means to resolve its payments imbalance. In addition, it freed the British from the straightjacket of the "snake in the tunnel" begun in April 1972. EEC countries were to have kept their currencies inside a band narrower than the 2.25 per cent on either side of par allowed by the Smithsonian Agreement. As if the setting of the Smithsonian rates had not been enough, EEC countries had decided to push for monetary union by keeping their exchange rates within even narrower bands relative to each other. But the requisite coordination of monetary policies was not present, and rather than sacrifice domestic economic goals, the British decided to float when faced with adjustment difficulties. The pound floated downward by 8 to 9 per cent during the remainder of 1972. (A similar course in a different setting had been followed earlier by the Canadians, in order to insulate their monetary policy from perturbations emanating from U.S. monetary policy.)

January 1973 brought changes that the Smithsonian rates could not withstand. The U.S. trade deficit for 1972 was reported at $6.4 billion, a sharp increase over the $2.0 billion of 1971. This was taken as a sign that strong currencies like the Swiss franc, the Japanese yen, and the German mark would be revalued. The Swiss franc was floated in January, and the movements out of the relatively weak lira resulted in a float of the commercial lira, along with the financial lira, in February. Pressure on the mark and the yen resulted in tremendous in-

flows of dollars to Germany and Japan. Then, on February 12, 1973, the U.S. dollar was devalued by 10 per cent. In the ensuing uncertainty, pressure on "strong" currencies continued, and central banks withdrew from the exchange markets from March 1 to March 19.

The exchange-rate regime was mixed in the spring of 1973. The currencies of Britain, Italy, Ireland, and Canada were effectively floating. Belgium, France, the Netherlands, and Sweden were trying to keep their cross rates very close together, while Germany and Switzerland hoped to be able to do the same. Japan and the United States were effectively floating. The details aside, a significant part of the trading world had moved into a period of limited official exchange-market intervention or, viewed in terms of the result, limited exchange-rate flexibility.

A Plan for Continuous Limited Exchange-Market Intervention

A system of limited flexibility is desirable if the degree of intervention practiced by central banks reflects a rational criterion. That criterion ought to be based upon an *ex ante* probability that a given portion of disturbances occurring over some period of time in the foreign-exchange market will be temporary and therefore reversible. The impact of such disturbances on the exchange rate ought to be offset by continuous limited intervention. The remainder of disturbances should be permitted to affect the exchange rate. The result of such limited intervention would be a mix of exchange-rate (price) and reserve (quantity) changes to deal with balance-of-payments disequilibria.[5]

The system of limited intervention referred to here is distinct from discrete, limited exchange-rate flexibility of the sort represented by "crawling peg" proposals. With continuous limited flexibility, it is both possible and desirable to employ a continuous mix of exchange-rate changes and reserve changes to resolve balance-of-payments disequilibria. The use of such a continuous mix is preferable to widening bands by crawling pegs. Crawling pegs are designed to substitute the certainty of a small parity adjustment for uncertainty regarding a relatively large parity adjustment. The difficulty with this method is that a very small parity adjustment, on the order of one-half or 1 per cent, is sufficient to generate very large capital flows when the time of the change is known, and the crawling peg system readily provides such information. Wider bands also imply that *all* disturbances within the band ought not be offset. *Ex ante*, however, it is very difficult to identify a shift in the demand

[5] I have examined some problems associated with conducting a policy of limited intervention under uncertainty in a partial-equilibrium setting in Makin (1973b) and in a general-equilibrium setting in Makin (1973a).

or supply schedule for foreign exchange as being either self-reversing or permanent. The continuous limited-intervention system assigns an *ex ante* probability to the permanence or self-reversing property of any given shift. This notion must represent a qualitative improvement in intervention policy, since ample evidence has been provided during the operation of fixed-rate systems that, *ex ante*, all disturbances in the foreign-exchange markets cannot be regarded as self-reversing. The quantitative question of what *ex ante* probability to assign to the permanence of an exchange-market disturbance can be answered over time by observing whether chronic reserve changes accompany a given level of intervention. The intervention level can be reduced until evidence of chronic reserve changes is removed. It is also possible to adjust the implicit equilibrium exchange rate in order to remove trend factors reflected in a chronic change in reserves.

A system of limited intervention would mean smaller holdings of international reserves by central banks as well as continuous movements of exchange rates over time. Yet *increased* liquidity has been suggested in many circles as a proper course for international monetary reform, while many questions have also been raised regarding the difficulties associated with exchange-rate flexibility. Advocacy of increased exchange-rate flexibility requires consideration of these issues.

Difficulties with Arguments for Large Reserve Stocks: Liquidity

The Bretton Woods system was basically designed to provide adequate international reserves or loans of reserves to permit financing of all but "fundamental" balance-of-payments disequilibria. Presumably, a nonfundamental disequilibrium would be self-reversing within some finite time period. A logically tenable rationale for large reserve stocks may be given in terms of preferences regarding the income stream of a nation. If a social-welfare function is postulated in terms of the level and variability of the aggregate income stream, the well-being of a risk-averse society is increased by a reduction in the variability of the income stream, given a constant level of the income stream. This type of social-utility function has been suggested by Clark (1970). In this context, the major rationale for a larger stock of international reserves is that reserves permit financing of random payments imbalances, forestalling an adjustment of domestic economic variables. In this way, the variability of the income stream consistent with viable international trade in goods and securities can be reduced.

It may be true, however, that the level of the income stream is adversely affected by increasing the stock of international reserves. This could more than offset the gains from a reduction in the variability of

the income stream. As we have seen, the movement of factors of production between the tradable- and nontradable-goods sectors of an economy, a matter that itself affects the balance of payments, is not independent of the level of the existing exchange rate. A disequilibrium exchange rate, maintained over a long period of time by the use of a large stock of official reserves, may reduce the level of income by misallocating resources. Such a misallocation may, in itself, imply a further deterioration of the balance of payments. If this is the case, it is invalid to claim that the impact over time of exogenous shocks upon the balance of payments is random and will net to zero. Instead, the disequilibrium exchange rate itself induces a reallocation of resources, which in turn affects the balance of payments.

The argument that a larger stock of official reserves will reduce the variability of the income stream takes little account of the fact that privately issued bonds are a means by which the private sector may cushion the shocks upon the domestic income stream arising from random events. If a random shock produces a deficit that is viewed as reversible over time, it is perfectly rational to finance the deficit by borrowing. A tight monetary policy that raises domestic rates will induce foreigners to lend funds. Even if the flows are temporary, as would be implied by the stock-adjustment view, this would be adequate in a case where borrowing is appropriately based upon a temporary discrepancy between receipts from foreign sales and expenditures on foreign purchases. Indeed, an assumption of a zero net value for the impact over time of exogenous shocks on the balance of payments is necessary to rationalize the financing of all shocks by reserve changes or private borrowing while permitting no exchange-rate changes. In other words, it is necessary to assume away the difficult problem of *ex ante* identification of reversible disturbances in order to make a case for a large stock of international reserves. The private sector, on the other hand, tends automatically to eliminate borrowers who borrow for the purpose of financing nonreversible disturbances.

The terms on which private financing of imbalances is made available will reflect the elasticity of the supply of funds available abroad. If we can believe the agonized cries of central banks over the "hot money" flows they take such pains to offset in a world of fixed exchange rates, however, the elasticities may be quite high indeed. The question may be raised, then, as to whether a large stock of official reserves provides enough additional cushioning for the domestic economy, beyond that afforded by availability of private borrowing, to furnish a net reduction of income variability. Whether there is a net gain in welfare becomes especially doubtful when the misallocation of resources im-

plicit in a fixed disequilibrium rate of exchange is considered. Larger official reserve holdings may not result in a net reduction in the variability of a country's income stream over that which would be possible if random fluctuations were financed by private borrowing. In addition, the possible resource misallocation implicit in a chronic disequilibrium rate of exchange maintained by the use of enlarged official reserves may imply a reduced level of real income.

It is even possible that larger official reserve holdings will increase the variability of the income stream. The argument that a larger stock of reserves will permit central banks to "ride out" larger shocks with no disturbance of domestic variables like income or interest rates presupposes two things: (1) that shocks are random and hence their expected value is zero, and (2) that the maintenance of a disequilibrium exchange rate over a long period of time is both costless and without impact on the likelihood that the economy will return to a condition of balance-of-payments equilibrium. These conditions are unlikely to be satisfied if it can be shown that random shocks will tend to be reinforced rather than reversed by a policy of maintaining a fixed exchange rate. As we have seen, the likelihood of reinforcement of shocks increases with the length of the period during which a disequilibrium exchange rate is maintained. The only way this problem can be avoided is for the central bank to identify *ex ante* which disturbances will be temporary. The failure of central banks in this area is a matter of record. In short, *the movements of resources, which themselves affect the equilibrium exchange rate, are not independent of the level of the exchange rate.* Arguments that suggest the optimality of larger reserve holdings as a means to reduce the variability of the domestic income stream assume implicitly that these movements are independent of the level of the exchange rate.

Anticipated Objections to Increased Exchange-Rate Flexibility: Adjustment

Balanced against the arguments for increased exchange-rate flexibility are arguments that suggest the gains from employing an effective single money approximated by fixed exchange rates. In this view, the world can be treated as an optimum currency area. Increased flexibility of exchange rates occasioned by reducing central-bank intervention, it is argued, will increase uncertainty and thereby reduce the volume of international trade in goods and securities. A number of questions need to be considered with respect to this claim. The most fundamental is whether exchange-rate variability will indeed be larger with "flexible" exchange rates than with "fixed" exchange rates. Nearly equivalent is the

question of whether there is more uncertainty about the level of exchange rates with a "fixed" or with a "flexible" rate regime. Designation of a set of fixed exchange rates at a point in time in no way guarantees that these rates will remain fixed for all time. This much should be clear from experience, particularly since 1967, with the "adjustable peg" system. Exogenous changes requiring large changes in the quantity of central-bank reserves to maintain a set of fixed exchange rates occasion uncertainty regarding the time at which a relatively large and discontinuous parity change will occur. This uncertainty develops toward a self-reinforcing, speculative crisis as the volume of intervention required clearly begins to exceed the central banks' ability, owing either to excessive inflationary pressure (surplus-inflow) or to inadequacy of reserves (deficit-outflow). It is questionable whether such an atmosphere as this is less damaging to international flows of goods and securities than is a steady movement of exchange rates upward or downward with either zero or limited intervention in the foreign-exchange markets.

A high level of central-bank intervention in the foreign-exchange market should not be taken for granted. Willett and Tower (1971) have aptly noted that the case for official stabilization of exchange rates must show the inadequacy of private speculation as a means to maintain orderly markets. While there is little actual experience to date with low levels of intervention, what experience we do have suggests that the exchange markets behave reasonably well under such circumstances. This really amounts to evidence that the private sector is as well or better able than central banks to identify transitional versus permanent disturbances in the foreign-exchange markets. The Canadian "float" of the 1950s and 1970s, the general transitional float of the autumn of 1971, and the current "floats" of the pound sterling, the lira, and the U.S. dollar are not notable for volatility of rates. Indeed, the highest degree of uncertainty currently surrounds the currencies of the countries that are trying to maintain their exchange rates within very narrow bands.

Another question that needs to be raised regarding objections to exchange-rate flexibility is whether, in the event of a wider range of flexibility over a given period of time attendant upon a lower level of intervention, the actual volume of trade in goods and securities will be reduced. This question raises an even more fundamental question, noted by Lanyi (1969), as to whether such a reduction in trade flows is in fact suboptimal. Central-bank intervention may represent an unwarranted subsidy to international trade in goods and securities if, in the absence of such intervention, more exchange-rate variability and less trade would occur. While I have suggested, given limited information,

that neither of these results is necessary, a demonstration that such results do occur would not in itself justify official intervention. One would have also to demonstrate that a higher level of exchange-rate variability constituted a negative externality that could not be dealt with by private exchange-market participants.

Leaving aside the welfare arguments regarding sufficient conditions for central-bank intervention, there is no evidence as yet that a reduced level of official intervention is accompanied by a reduction in the volume of international trade. An empirical study by Clark (1972) detected no reduction in the trade volume for Canada during its period of "floating" in the 1950s. This finding may, of course, be due to the fact that only a small increase in actual exchange-rate variability over time accompanied the reduced level of central-bank intervention. Note that an increase in actual variability need not imply an increase in uncertainty regarding future levels of the exchange rate; there is less pressure on the central bank to resolve balance-of-payments disequilibria with quantity (reserve) changes in the foreign-exchange markets. With limited intervention, both price and quantity changes are available to resolve exchange-market disequilibria. The possibility that increased uncertainty regarding future exchange rates did not accompany the small increase in *actual* exchange-rate variability during the Canadian "float" may account for Clark's failure to detect any significant impact on the volume of trade. The same may hold true for the transitional float of late 1971 as well as for the current period of limited flexibility. Although no systematic evidence is as yet available, it is worth noting that the volume of world trade grew at a 9.5 per cent annual rate during the first half of 1973. This compares favorably with an average figure of 8.3 per cent for the 1960–70 period (see *Annual Report*, International Monetary Fund, 1973, pp. 17–18).

Another difficulty with the argument for fixity of exchange rates is that it repeatedly leads policy makers to a confusion of means and ends. Fixed exchange rates, rather than being viewed as a means to increase the volume of trade, become an end in themselves. Policy makers resort to controls on international flows of goods and securities when faced with chronic balance-of-payments disequilibria. These restrictive actions are taken, ironically enough, to defend the very exchange rates that were originally fixed as a means to increase international flows of goods and securities.

4. Conclusions

The major impact of U.S. international-policy initiatives begun in August 1971 has been a reorientation of the international monetary

system away from liquidity and toward adjustment. The concurrent increased movement of exchange rates, however, has been only transitional and in one direction with respect to the U.S. dollar. The possibility raised here that capital flows may not be independent of the level of exchange rates implies that a large dollar devaluation may reduce long-term capital flows out of the United States. If such is the case, any efforts to re-peg exchange rates at levels designed to provide a U.S. trade surplus adequate to finance historically high U.S. capital outflows would be in error.

More generally, the trading nations of the world need to progress from the transitional one-way movement of exchange rates occasioned by an era of chronic disequilibria to an era of continuous, two-way flexibility of exchange rates. The degree of flexibility should be based on a realistic assessment of the expected permanence of exchange-market disturbances. The suggestions for "stable" but adjustable parities that continue to appear in the output of the Commitee of Twenty will lead nowhere. Such proposals will always founder on the question of *ex ante* criteria for the transition from "stability" to "adjustment." In addition, the "stability" proposals are oriented toward more liquidity. This can be explained by the demonstrated and understandable reluctance of governments to adjust economic policies consistently for other than domestic goals. Larger reserve stocks would result in a recurrence of the kind of resource misallocation that accompanied the long-maintained disequilibrium exchange rates of the Bretton Woods era. In addition, the difficult question regarding the source of more liquidity would have to be solved. I have elsewhere (Makin, 1972b) identified numerous difficulties involved in producing a large and growing source of homogeneous international reserves from such diverse sources as dollars, gold, and SDRs.

While the utilization of reserves to deal with balance-of-payments disequilibria would be fully as workable as changes in exchange rates if the "rules of the game" were followed—if reserve changes were permitted to change the relative quantities of monies—there is little evidence of a widespread willingness to follow such rules. There must therefore be more willingness to change exchange rates. In an open economy, either the quantity of national money must be exogenously determined or the price of one money in terms of others must be free to change. The more freely the relative price of a money can change, the freer is the central bank to control the quantity of money in a manner consistent with domestic goals. Of course, neither method of adjustment permits freedom from an international-equilibrium constraint.

I have also suggested that freer movement of exchange rates need not penalize the volume of trade in goods and securities. *Permitting* freer movement of exchange rates with less official exchange-market intervention does not guarantee that it will in fact occur. Even if more variability occurs, moreover, this does not necessarily imply an increase in uncertainty regarding future exchange rates over that which would obtain under a system of adjustable pegs. Furthermore, limited evidence does not suggest that increased variability in exchange rates produces a reduced volume of trade.

In view of these considerations, a clearly defined intervention system, preferably of a limited sort, should be adopted by major trading nations at the earliest possible date. Such a system would reduce the current uncertainty regarding the role central banks intend to play in the foreign-exchange markets. Limited intervention would acknowledge the general proposition that some exchange-market disturbances are reversible and should be offset, while others are permanent and should therefore be permitted to affect the (relative) price of foreign exchange. If a temporary change in the exchange rate might induce a movement of resources that would be unwarranted in the longer run, some external diseconomies could result from complete flexibility of exchange rates. Limited flexibility would also give central banks more independence in pursuing domestic policy goals than was available under the Bretton Woods system.

POSTSCRIPT

The months since this essay was drafted have brought a number of changes, some of which were predicted and some of which advocated in this essay. The one-way movement of exchange rates has been reversed for the time being, owing largely to a strengthening of the U.S. dollar that is apparently linked to the expected relative strength of the United States in meeting the oil crisis. The episodes with the Japanese yen and the French franc marked the most dramatic events in this trend. Of course, the French abandonment of attempts to peg the commercial franc within a narrow range relative to some European currencies is particularly representative of the sort of policy advocated in this essay. The continuing difficulties experienced by the Japanese after re-pegging the yen at 300 per dollar suggest that they would do well to follow a more flexible intervention policy. In addition to these changes, foreign direct investment in the United States has increased sharply, with a rise of about $2 billion in 1973, three times the 1972 increase (see *The Economist*, Jan. 26, 1974, p. 99). Related perhaps to this development and

to the overall improvement of the U.S. balance of payments in 1973, the controls on U.S. capital outflows have been removed. While most of these changes appear encouraging in a general sense, their interpretation at this stage must be viewed as highly tentative. Perhaps we are seeing some early evidence of the responsiveness of direct investment flows to a major realignment of exchange rates.

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