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## Summary and Conclusions

### *Empirical Findings*

#### HOLDINGS OF AMERICAN LIQUID DOLLAR ASSETS

*Foreign nonofficial nonbank* holdings of American liquid dollar assets have been relatively stable in recent years; they have varied by less than \$1 billion between the end of 1965 and mid-1972 and have exhibited no upward trend over the period. U.S. demand deposit holdings of this group have shown little change, at least since the end of 1963. Given the fact that international trade valued in current dollars has more than doubled since then, the stability of these dollar holdings suggests that foreign nonbanks have found ways of economizing on their dollar balance requirements for both transactions and precautionary purposes. It also indicates that, in view of the several-fold increase in foreign nonbank holdings of other international liquid assets, American dollar balances have become relatively less remunerative or perhaps less desired for other reasons. It should be pointed out that these trends were evident well before 1970 while the dollar was strong in the foreign exchange market.

The behavior of American liquid dollar balances of *foreign commercial banks* is obscured by the data. We have only a rough breakdown between those balances that constitute intra-multinational bank accounting entries and other balances, and the latter are not fully disaggregated by category of liquid dollar asset, e.g., demand deposits. From the end of 1966 to the end of 1970, 68 to 76 percent of all reported U.S. liquid liabilities to foreign commercial banks constituted intra-multinational bank balances. During each of these years except 1970, the largest amount was ac-

counted for by the liabilities of U.S. banks to their foreign branches, which rose from \$4.0 billion at the end of 1966 to a high of \$14.5 billion at the end of November 1969 and then dropped to \$6.2 billion by the end of 1970 and to only \$1.3 billion by the end of 1971. These balances arose out of U.S. commercial bank borrowings from the Eurodollar market through their foreign branches and were, for the most part, not related to the financing of international transactions. The dollar liabilities of the U.S. branches and agencies of foreign banks to their head offices and affiliates abroad showed a fairly steady growth from \$3.3 billion at the end of 1964 to \$6.0 billion at the end of 1970. Thereafter they dropped to \$4.5 billion by the end of 1971. These liabilities constitute in large measure a commitment of foreign commercial banks to banking operations in the United States concerned with both U.S. domestic and international finance. Given the circumstances under which the large volume of intra-multinational bank balances was created, it is impossible to determine either the amounts of foreign liquid dollar balances which serve an international transactions function or the amounts which represent the American dollar asset components of the liquid interest-earning portfolios of foreign commercial banks.

As long as the rise in foreign liquid claims on the United States was largely in the form of intra-multinational bank balances, the holdings of *foreign official institutions* were fairly stable, the net increase being only \$0.2 billion from the end of 1964 to the end of 1969. Then, with the decline in intra-multinational bank balances, foreign official claims rose rapidly. The bulk of the increase in these claims in 1970 (\$7.7 billion) could be accounted for by the fall in claims of foreign branches of U.S. banks on their parents (\$6.4 billion). In 1971, however, foreign official holdings of American dollars soared by \$26.9 billion, of which no more than \$5 billion could be attributed to the further liquidation of U.S. commercial bank liabilities to the Eurodollar market. That increase brought total liquid claims on the United States by foreign official institutions at the end of 1971 to just over \$50 billion, or more than twice the amount a year earlier and more than three times that of two years earlier.

In contrast to foreign liquid claims on the United States, the

(recorded) volume of *U.S. liquid claims on foreigners* has not increased substantially since 1964. It was, in fact, slightly higher at the end of 1968 (\$10.9 billion) than at the end of 1971 (\$10.8 billion). The U.S. *net* liquid position vis-à-vis each of the three categories of foreign liquid dollar asset holders behaved quite differently over the 1964–71 period. The U.S. net (negative) liquid position with foreign *nonbanks* remained within a range of from \$3.2 to \$4.8 billion over the period 1963–71 and was \$3.8 billion at the end of 1971. However, the U.S. *short-term* position with foreign nonbanks was *positive* throughout the period, taking into account not only liquid items but also U.S. short-term loans and credits to foreigners. (In addition, U.S. corporations had large claims on their foreign affiliates which are generally not included in the data on short-term indebtedness.) The U.S. *net* (negative) liquid position with foreign commercial banks (including foreign branches of U.S. banks) rose from \$1.1 billion at the end of 1964 to \$16.4 billion by the end of 1969, but declined to \$1.4 billion by the end of 1971. The recorded positions, however, grossly understate U.S. resident claims on foreign commercial banks. The United States probably had a net positive position vis-à-vis foreign commercial banks at the end of 1971 if the several billion dollars in (largely unreported) U.S. resident holdings of Eurodollar deposits are included. Thus at the end of 1971, of the three categories distinguished, the United States had a net *negative* short-term position only with foreign official institutions of approximately \$50 billion.

#### HOLDINGS OF EURODOLLARS

Since Eurodollar deposits perform many of the same functions as American dollars, we have estimated the volume of foreign holdings of Eurodollars again by nonofficial nonbanks, commercial banks, and official institutions. Because of the data limitations, the Eurodollar balances of *foreign nonofficial nonbanks* have been limited to their Eurodollar holdings with “inside area” and Canadian banks. On this basis foreign nonbank deposits rose from \$7.0 billion at the end of 1966 to \$17.6 billion by the end of 1970, but fell to \$14.5 billion by the end of 1971. Foreign nonbank borrowings of Eurodollars rose throughout the same period from \$5.8 billion at

the end of 1966 to \$24.8 billion by the end of 1971. The largest increase occurred during 1970, the period of largest repayments of U.S. commercial banks to the Eurodollar market.

Gross Eurodollar holdings of *foreign commercial banks* include some \$40 to \$50 billion of interbank balances of "inside area" banks and of other foreign commercial banks and foreign branches of U.S. banks active in the market. (Banks are regarded as active in the Eurodollar market if they engage in mutual depositing with one another as contrasted with banks that may simply borrow funds from the market or deposit funds in the market in much the same way as nonbanks.) The BIS excludes all interbank dollar balances of "inside area" banks in its calculation of the net size of the Eurodollar market on the same grounds that interbank balances are excluded in the calculation of domestic money supply in national economies. In our conceptual framework of the Eurodollar market, we regard all foreign commercial banks that are active in the market in the sense indicated above, plus foreign branches of U.S. banks, as constituting the Eurodollar interbank system. However, we regard the foreign branches of U.S. banks as playing a dual role. They are part of both the U.S. banking system and the Eurodollar interbank system. In estimating the Eurodollar deposits of foreign commercial banks in the Eurodollar banking system, we exclude *all* deposits of these banks with one another. However, we include in our estimates of Eurodollar deposits of foreign commercial banks their *net* deposits with foreign branches of U.S. banks. There are, in addition, a large number of foreign commercial banks outside the Eurodollar banking system that have deposits with foreign commercial banks which form a part of the system. Unfortunately, since there is no way by which the volume of these deposits can be derived from the available data, they are excluded from our estimate of Eurodollar deposits of foreign commercial banks. The net position of all foreign commercial banks with foreign branches of U.S. banks rose from \$2.2 billion at the end of 1966 to \$9.7 billion by the end of 1969. The net position declined to \$4.0 billion by the end of 1971 with the repayment of U.S. commercial borrowings to the Eurodollar market.

*Foreign official* holdings of Eurodollar deposits have become increasingly important in recent years with identified deposits rising

from an estimated \$1.3 billion at the end of 1964 to \$10.1 billion by the end of 1971. Moreover, a portion of the \$8.7 billion in unidentified official holdings of Eurocurrencies and other reserve assets are believed to represent Eurodollar deposits.

#### COMBINED HOLDINGS AND NET POSITIONS

On the basis of the definitions of liquid dollar holdings given above, we have calculated the combined American liquid dollar and Eurodollar holdings of the three categories of foreign dollar holders. Total combined liquid dollar holdings rose from \$36.4 billion at the end of 1966 (of which \$25.2 billion were American liquid dollars), to \$93.5 billion by the end of 1971 (of which \$64.9 billion were American liquid dollars). Almost half of the combined foreign liquid dollar holdings at the end of 1966 and almost two-thirds at the end of 1971 represented the claims of foreign official institutions on U.S. residents. The combined liquid dollar holdings of *foreign commercial banks* rose from \$8.2 billion at the end of 1966 to a high of \$20.9 billion by the end of 1969, and declined to \$14.0 billion by the end of 1971. At the end of 1969, 46 percent of foreign commercial bank holdings of liquid dollar assets consisted of net deposits with foreign branches of U.S. banks as contrasted with 29 percent at the end of 1971. The combined liquid dollar holdings of *foreign nonbanks* rose from \$11.3 billion at the end of 1966 to a high of \$22.3 billion by the end of 1970, declining to \$18.7 billion by the end of 1971. The variations in these holdings were due almost entirely to changes in their holdings of Eurodollars since foreign nonbank holdings of American dollar assets remained relatively stable throughout the period. Over the period 1969-71, Eurodollars represented nearly 80 percent of the total liquid dollar holdings of foreign nonbanks as contrasted with slightly over 60 percent at the end of 1966.

Over the 1966-68 period, the net Eurodollar positions of foreign nonbanks were in approximate balance. With the rapid rise in their Eurodollar deposits in 1969, their net position shifted to a credit balance of \$6.3 billion by the end of that year. During 1970, foreign nonbank Eurodollar deposits leveled off, and in 1971 they declined sharply. Eurodollar loans to foreign nonbanks nearly doubled in 1970 and continued to rise during 1971. Consequently the

net Eurodollar position of foreign nonbanks turned negative in 1970; the negative position increased to \$10.3 billion by the end of 1971. Since the net positive position of foreign nonbanks in American liquid dollar assets remained within a range of from \$3.8 to \$4.8 billion over the 1966–71 period, the net combined liquid dollar position of foreign nonbanks shifted from a net positive position of \$10.6 billion at the end of 1969 to a negative position of about \$6.5 billion by the end of 1971.

Adequate data for determining the net Eurodollar positions of foreign commercial banks (excluding foreign branches of U.S. banks) are not available, but it seems unlikely that foreign commercial banks had a substantial *uncovered* positive dollar position in 1970 or 1971. On the other hand, foreign official institutions quite clearly had net credit positions in both Eurodollars and American dollars throughout the 1966–71 period. Although some foreign nonbanks undoubtedly incurred losses in terms of their own currencies at the time of the currency realignment in December 1971, most of them probably gained. The vast bulk of the losses from the depreciation of the dollar in 1971 were absorbed by the foreign central banks.<sup>1</sup>

#### SUBSTITUTION AMONG HOLDINGS OF DIFFERENT ASSETS

While American liquid dollar assets and Eurodollar deposits would seem to be close substitutes for one another, differentials between U.S. money market rates and Eurodollar deposit rates have at times exceeded 200 basis points. Changes in deposits of U.S. residents in the Eurodollar market are probably sensitive to changes in the U.S. money market–Eurodollar deposit rate differential, but there are simply no satisfactory data on holdings of Eurodollar deposits by U.S. residents with which to test this relationship. Our investigation of the interest sensitivity of foreign nonbanks with respect to shifts in their portfolios between interest-earning American liquid dollar assets and Eurodollar deposits failed to yield positive results. On a month-to-month basis for the period June 1968–December 1971, changes in the composition of liquid dollar

1. Foreign central banks provided much of the cover for the positive dollar positions of foreign commercial banks through swap operations in dollars and by supporting the forward rate on the dollar.

assets of foreign nonbanks did not occur in accordance with changes in the spread between the Eurodollar deposit rate and the U.S. secondary market rate for CDs. In 42 observations recorded in Table 2.10, the movements were in accordance with a priori expectations in only 10 cases. Nevertheless, better data and the inclusion of other liquid assets in the portfolios of foreign nonbanks, together with allowance for lags in response to changes in interest rate differentials and for changes in expectations regarding future movements in exchange rates, might well have revealed the existence of interest sensitivity. We did find indirect evidence over the period from the end of 1968 to the end of 1970 of substitution of foreign nonbank holdings of Eurodollars for their holdings of liquid American dollars. But this substitution is probably long run or structural rather than short run, that is, month-to-month or quarter-to-quarter. Our indirect evidence of substitution is derived from the fact that during the 1968–70 period the secular growth in foreign nonbank holdings of American liquid assets was interrupted by a decline in such holdings. During this same period foreign nonbank holdings of Eurodollar deposits had their most rapid growth. They rose by an amount nearly twice the total volume of American liquid dollar holdings of foreign nonbanks.

Given the sharp rise after 1968 in foreign nonbank holdings of Eurodollars—all out of proportion to the historical rate of growth of their holdings of U.S. liquid dollar assets—it appears likely that most of this increase represented a substitution of Eurodollars for nondollar currencies. There have been large differentials in yields between Eurodollar deposits and European domestic currency deposits with the same maturity, ranging up to 300 basis points or more on both a covered and an uncovered basis. In most cases, these differentials have been in favor of Eurodollar deposits. While we lack adequate data for formulating and testing a portfolio-adjustment model for foreign nonbank holdings of Eurodollar deposits, our regression analysis did confirm the existence of significant relationships between changes in foreign nonbank deposits in all foreign branches of U.S. banks and in U.K. branches alone, on the one hand, and changes in differentials between covered Eurodollar deposit rates and British and Swiss deposit rates, respectively, on the other.

There is also statistical evidence that Eurodollar banks in Belgium, the Netherlands, France, and Germany over the period September 1963–June 1969 tended to be net lenders to the Eurodollar market when the interbank Eurodollar rate exceeded the domestic money market rate and to be net borrowers from the Eurodollar market when the domestic money market rate exceeded the Eurodollar rate.

#### EURODOLLAR MARKET AND INTERNATIONAL PAYMENTS

The operations of the Eurodollar market have a direct impact on the U.S. balance of payments only when U.S. residents are involved as net lenders or borrowers from the market. Thus during periods of large U.S. resident borrowings from the market, the U.S. *official transactions balance* tended to improve. This balance was adversely affected in periods of net U.S. resident repayments to the market. A priori analysis suggests that the growth of the Eurodollar market has had a beneficial effect on the U.S. *basic balance*, but sufficient information is not available to confirm this conclusion.

The growth of the Eurodollar market does not depend upon U.S. balance-of-payments deficits. However, to the extent that U.S. deficits increase world liquidity, foreigners have a larger volume of funds for placement in the market. Foreign official institutions have been an important source of funds for the Eurodollar market. As U.S. deficits increased the dollar reserves of foreign central banks, these institutions have been induced by the higher yields on Eurodollar deposits (and by other factors as well) to acquire Eurodollar deposits. Recently, several European surplus countries have imposed restrictions on capital imports, including the establishment of reserves on deposit liabilities to foreigners by their commercial banks and cash deposit requirements for direct borrowing by domestic nonbank corporations from the Eurocurrency markets. These actions have tended to limit the demand for Eurodollar loans in the countries employing the restrictions. The Eurodollar market and other Eurocurrency markets, however, have continued to grow, partly as a consequence of the increased demand for Eurocurrency loans from the developing countries and Eastern Europe.

*The International Role of the Dollar*

The summary of our empirical findings provides certain insights regarding the changes in the international role of the dollar over the 1964–71 period. Foreign private holdings of American liquid dollar balances have grown only modestly when compared with the nearly twofold increase in the value of world trade and perhaps a several-fold increase in the volume of international financial transactions. Foreign nonbank holdings of American liquid dollar assets have declined since 1968. They are little higher than they were at the end of 1964; their holdings of U.S. demand deposits rose by only 13 percent between 1963 and 1971. Recorded holdings of American liquid dollar assets by foreign commercial banks (excluding foreign branches of U.S. banks) rose from \$6.1 billion at the end of 1964 to \$10.0 billion by the end of 1971 (Table 2.2, line 3), but of the latter amount \$4.5 billion represented liabilities of U.S. agencies and branches of foreign banks to their head offices abroad, not all of which can properly be regarded as performing the functions of an international currency.

This relatively modest growth in foreign private holdings of American dollars appears to reflect two developments. First, foreigners have economized on dollar holdings which perform the functions of transactions and precautionary balances. This economy has been achieved in part through the operations of multinational banking institutions. Second, the function of the dollar as a medium of foreign private holdings of liquid interest-earning assets has in large measure been shifted to the Eurodollar market or, more broadly, to the Eurocurrency market. Nevertheless, we do not believe that these developments imply a diminution of the international currency functions of the dollar. They do imply a shift in the international financial intermediation function from U.S. financial markets to worldwide markets, a shift that occurred in part as a consequence of U.S. monetary policies, including capital export controls, and in part as a consequence of the worldwide expansion of the U.S. banking system. These two causal forces were not unrelated, of course, inasmuch as the foreign expansion of U.S.

banks was greatly stimulated by U.S. monetary policies and controls.

Our data also provide certain insights into the demand for American dollar holdings by foreign official institutions. At the end of 1964 such holdings totaled \$15.8 billion, rising to \$18.2 billion by the end of 1967. By the end of June 1969, however, they had fallen to \$14.9 billion, mainly as a consequence of the large U.S. commercial bank borrowings from the Eurodollar market. In spite of the fact that European central bankers had been complaining about having to absorb more dollars than they wanted to hold in their reserves, in mid-1969, foreign governments complained about the drain on their dollar reserves caused by the U.S. commercial bank borrowings from the Eurodollar market,<sup>2</sup> and in the second half of 1969 some countries, including Germany, sold gold to the U.S. Treasury in order to rebuild their dollar reserves. This strongly suggests that, at least until the end of 1969, foreign central bank holdings of dollars were roughly in line with their voluntary demand for them. After 1969 much of the rise in foreign central bank holdings of dollars constituted an involuntary acquisition on the part of the major surplus countries of Europe and Japan.

#### REASONS FOR THE GROWTH OF EURODOLLARS

Although a portion of the rise in foreign private holdings of Eurodollars may be regarded as a substitute for dollar balances which might otherwise have been held in the United States, the vast bulk of the rise in these Eurodollar claims must be explained by factors relating to the growth of the Eurocurrency market itself. We may, therefore, ask whether the several-fold rise in Eurodollar deposits should be regarded as a rise in the demand for *dollar* liquidity as such or whether this rise reflected an increase in the world demand for international liquidity in general.

Over the period 1964-71, the world demand for liquid assets expanded very rapidly. In many developed countries the volume of

2. In mid-1969 when U.S. resident borrowings from the Eurodollar market substantially exceeded the U.S. dollars provided by the deficit on the U.S. basic transactions account, foreign central bankers (at the meetings of the Group of Ten) requested the United States to take action to limit U.S. bank borrowings from the market through their foreign branches. In response to this request the Federal Reserve Board established a 10 percent reserve requirement on U.S. bank borrowings through their branches beyond a specified base level.

quasi-money (time and savings accounts in commercial banks and other savings institutions) has risen proportionately more than the rise in GNP.<sup>3</sup> Moreover, an increasing proportion of liquid asset holdings of private nonbanking concerns and individuals appears to have taken the form of international assets. A partial indication of the rise in the volume of liquid international asset holdings is provided by the BIS data on "inside area" bank liabilities to (non-resident) nonbanking concerns and individuals. Over the period December 1966–December 1971, these liabilities rose from \$4.6 billion to \$12.8 billion.<sup>4</sup> This estimate does not include the rise of several billion dollars in foreign currency deposits held by residents of "inside area" countries with commercial banks located in their own countries. Portfolio theory offers an explanation of the expansion of demand for international assets in terms of risk diversification and the desire for higher yields on assets with equivalent maturities and risk exposure. But whatever the factors underlying the demand, the supply of international liquid assets for satisfying the preferences of portfolio holders has been provided in large measure by the development of the Eurocurrency market.

It is our view that the growth of the Eurodollar market cannot be explained in terms of either the foreign demand for dollar liquidity as such or the international liquidity requirements for an expanded international trade. Since 1964, international liquid asset holdings have increased out of all proportion to the rise in international trade. The growth of the Eurocurrency market took place in response to the increase in the world demand for diversified international liquid assets. Liquid asset holders were able to hold their assets in any one of a dozen countries with approximately the same yield for the same maturity. Thus, even though most of these liquid assets were denominated in dollars, the political risks were diversified while the exchange risks could be hedged in the forward market.

3. For example, in Germany time and savings deposits rose by nearly 190 percent over the period between the end of 1964 and the end of 1971; increasing by 130 percent in Switzerland; and by nearly fourfold in France. In none of these countries did GNP in current prices double during the period. (See Country Pages in IMF, *International Financial Statistics*, December 1971 and December 1972.)

4. BIS data include liabilities in both dollar and nondollar currencies. BIS, *Forty-Second Annual Report*, Basle, June 1972, p. 151.

## THE ROLE OF THE DOLLAR IN THE EUROCURRENCY MARKET

We have noted that the Eurocurrency market has served as a very efficient international financial intermediary. First, it provides the lenders with a variety of highly liquid assets (diversified on a geographical basis) on which their covered returns are generally higher than returns available in domestic money markets, and it provides borrowers with a dependable source of loan funds with a variety of maturities and at a cost frequently lower than the cost of loans from domestic money markets. Second, the Eurocurrency market together with the Eurobond market, which have in considerable measure replaced the international intermediation functions of U.S. resident institutions, have certain advantages over U.S. resident institutions for both lenders and borrowers. Lenders can deal through their own resident banks and investment houses or through financial institutions in a number of other countries, thereby diversifying their risks. Borrowers can also deal with financial institutions in their own countries or with those in other countries. Third, both the Eurocurrency and the Eurobond markets are, to some degree at least, independent of monetary developments in the United States.<sup>5</sup> Nevertheless, the advantages of a worldwide system of international financial intermediation have in large measure been provided by an extension of the U.S. commercial banking and investment banking systems to the major countries of the world, working in cooperation with the financial institutions of other countries.

But why has the U.S. dollar rather than other major currencies served as the principal currency in which Eurocurrency transactions have been denominated?<sup>6</sup> The answer is to be found in the characteristics of the dollar itself and in the institutional framework of the Eurocurrency market. Prior to 1970 there was little expectation of

5. Assuming a continuation of reserve requirements on borrowings by U.S. banks from their foreign branches imposed by the Federal Reserve Board in June 1969 (together with subsequent Federal Reserve actions to discourage such borrowing), it appears unlikely that the heavy borrowing by U.S. banks from the Eurodollar market that took place in 1966, 1968, and 1969 will be repeated.

6. Nonbank holdings of nondollar Eurocurrency deposits were only about \$0.5 billion dollars at the end of 1966, but they increased to \$2.8 billion at the end of 1971 and they have continued to grow during 1972. See BIS, *Forty-Second Annual Report*, p. 151; and Morgan Guaranty Trust Company of New York, *World Financial Markets*, September 19, 1971, p. 4.

either devaluation or appreciation of the U.S. dollar vis-à-vis all other currencies taken together at least in the short run. Taking both Eurocurrency lenders and borrowers together, this made the dollar the optimal medium for international financial intermediation. No other currency had these characteristics of an international standard. In addition, the foreign branches of U.S. banks, which were largely responsible for the rapid growth of the Eurodollar market in the 1960s, sought to attract dollar deposits to provide dollars for their U.S. parents and to supply dollar loans to U.S. firms operating abroad. Multinational firms with headquarters in the United States were large depositors as well as borrowers, and they normally preferred to hold dollars. A substantial proportion of the U.S. dollars entering the Eurodollar market came from the central banks either by means of central bank deposits or through swap transactions with foreign commercial banks. The U.S. deficit on basic transactions account served to provide both a source of foreign liquidity and a source of dollars for the market during the period prior to 1970 when a large proportion of the dollars deposited with Eurodollar banks was being transferred to the United States.

Expectations of a dollar devaluation contributed to the growing U.S. deficits on official reserve transactions account during 1970 and 1971 and evidently reduced the attractiveness of Eurodollar deposits to foreign nonbank holders. Thus during 1970, foreign nonbank holdings of Eurodollar deposits rose by less than \$0.5 billion (see Table 2.5) while nonbank deposits in other Eurocurrencies rose by more than \$1 billion.<sup>7</sup> During 1971, nondollar Eurocurrency deposits of nonbanks continued to grow while Eurodollar deposits of foreign nonbanks declined.<sup>8</sup> This decline in foreign nonbank holdings of Eurodollar deposits was more than offset by the growth of foreign central bank deposits, of U.S. resident deposits, and of other sources of dollars available to the market (see Tables 2.3 and 2.10).

The shift in the net Eurodollar positions of foreign nonbanks

7. BIS, *Forty-Second Annual Report*, p. 151. Nonbank Eurocurrency deposits in nondollar currencies include both U.S. resident and foreign deposits, but we have no way of separating them.

8. A part of the increase in the dollar value of nondollar Eurocurrency deposits during 1971 is attributable to the depreciation of the dollar in terms of other European currencies.

from a positive balance of over \$6 billion at the end of 1969 to a negative position of over \$10 billion at the end of 1971 indicates that foreign nonbanks converted nearly \$17 billion into foreign currencies over the period. This conversion of dollars—largely borrowed from the Eurodollar market—into foreign currencies accounted for about half of the increase in American dollar holdings of foreign official institutions over the same period. These holdings played a decisive role in precipitating the “dollar crisis” of August 1971.

Since the end of 1971, the decline in foreign nonbank deposits has been reversed. Between the end of December 1971 and the end of October 1972, foreign nonbank deposits in foreign branches of U.S. banks rose by about \$1.4 billion. Deposits of foreign commercial banks in foreign branches of U.S. banks rose by about \$4.7 billion over the same period, and the volume of deposits of foreign official institutions with foreign branches of U.S. banks rose also, by more than \$2 billion.<sup>9</sup> Thus, despite the dollar crises of 1970–71, the Eurodollar market continued to expand during 1972.<sup>10</sup>

#### THE FUTURE ROLE OF THE DOLLAR

In the light of the world currency developments since August 1971 and in the context of the current negotiations on international monetary reform, two questions arise regarding the future role of the dollar. One relates to the prospective growth of foreign dollar balances in the United States. We have already witnessed retardation in the growth of foreign private holdings of American dollar balances and the partial replacement of the functions of these balances by Eurodollars. We have also seen an erosion of the international financial intermediation function of the United States. This function has in considerable measure been transferred abroad by the growth of foreign branches of U.S. banks and of U.S. investment banking houses operating in the Eurobond market. In other words, the world-banker functions of the United States have tended to become internationalized in a manner analogous to the functions

9. *Federal Reserve Bulletin*, March 1973, p. A89.

10. According to *World Financial Markets* (Morgan Guaranty Trust Company of New York, March 22, 1973, p. 4), the net size of the Eurodollar component of the Eurocurrency market grew by \$15 billion during 1972.

of U.S. nonfinancial corporations. Foreign banks have also penetrated the U.S. banking system, with the result that international transactions are financed through multinational banks to an increasing degree, and international borrowing and lending take place in world markets rather than through bilateral transactions involving lenders and borrowers in different countries. It seems likely that even with a return of international confidence in the exchange stability of the dollar, international liquidity holders will continue to have a preference for Eurocurrency deposits over American liquid dollar assets and that the demand for Eurocurrency loans will continue to expand. Eurocurrency deposit rates are likely to continue to be somewhat higher than U.S. money market rates, while U.S. rates set a floor for Eurodollar deposit rates. Since U.S. capital controls played an important role in the creation of both the Eurocurrency and the Eurobond markets, it has been suggested that if these controls are phased out by the end of 1974, as Secretary Shultz proposed in his statement of February 12, 1973,<sup>11</sup> international borrowing will be shifted from both the Eurocurrency and Eurobond markets to the United States. However, given the institutional structure of the Eurodollar market, it appears likely that most foreign firms would find it easier and more convenient to borrow from local Eurodollar banks where they are known rather than from U.S. banks. Moreover, U.S. parent banks may prefer to make loans through their foreign branches in much the same way that they make loans through their domestic branches.

Although the efficiency of the Eurocurrency market and its popularity with both lenders and borrowers have been clearly demonstrated, we noted in Chapter 3 that national governments have been limiting their residents' use of the Eurocurrency market, and that there has been considerable discussion regarding an international agreement or concerted action by governments to constrain the operations of that market. One example of a potential general constraint on the Eurocurrency market is an agreement on the part of all governments to establish substantial reserve requirements on Eurocurrency deposits. This would increase the cost to Eurocur-

11. See "Statement on Foreign Economic Policy," Secretary of the Treasury George P. Shultz, Department of the Treasury *News Release*, February 12, 1973.

rency banks of obtaining funds from Eurocurrency deposits and would tend to reduce the interest rates the banks could pay on these deposits, or increase the rates they would have to charge on loans, or both, thereby decreasing the advantages of the Eurocurrency market as a financial intermediary. However, there are serious obstacles to the elimination or substantial curtailment of the Eurocurrency market. As an international market, the Eurocurrency market can operate anywhere in the world, beyond the jurisdiction of the major financial powers. Recently, we have witnessed the rapid expansion of Eurocurrency banking in such areas as the Bahamas, Hong Kong, Singapore, and Beirut. From all over the world, funds in large amounts can flow into the Eurocurrency market via branches of multinational banks located outside the principal financial centers, and these branches can place funds through their affiliates in almost any country. Moreover, the major developed nations are far from any agreement on the desirability of concerted action to suppress the market.

A second question is whether we should expect Eurodollar deposits to be displaced in large measure by Euro-Deutsche marks, Eurosterling, Euro-Swiss francs and other nondollar Eurocurrencies. Are the factors discussed above explaining the past dominance of the dollar in the Eurocurrency market likely to continue to prevail? The first and most important factor concerns the future role of the dollar as an international standard of value. On the one hand, this standard-of-value role has been shaken by the formal devaluation of the dollar following the Smithsonian Accord of December 1971, and by the further devaluation announced in February 1973. These events showed that the exchange value of the dollar could be changed simultaneously in relation to most of the world's leading currencies—something that many economists had been denying. Moreover, if the European Community (EC) joint float, initiated in March 1973, proves successful and is expanded to include the pound sterling, the exchange value of the dollar would fluctuate in relation to a group of the world's leading currencies. There would be two international standards of value fluctuating in relation to one another, and the consequences for the role of the dollar in the Eurocurrency market are difficult to predict. On the other hand,

if the EC float does not prove successful, and if international confidence in the dollar is restored so that a further devaluation of the dollar in terms of the SDR is not anticipated, the dollar would remain as the principal international standard of value. Even in an international monetary regime in which none of the world's leading currencies maintained a formal parity (or central rate) in terms of the SDR or the dollar, the currencies of the rest of the world would be floating in relation to the dollar.<sup>12</sup> Under these circumstances, the dollar would remain as the major currency least likely to depreciate or appreciate simultaneously against all other currencies and, hence, would continue to be the optimal medium for international financial intermediation for both Eurocurrency lenders and borrowers.

A second factor making for the dominance of Eurodollars in the Eurocurrency market in the past has been the leading role played by U.S. banks in the Eurocurrency market in terms of both the volume of business and the provision of institutional facilities. While U.S. banks can and do trade in other Eurocurrencies, the bulk of their assets and liabilities in both the United States and abroad are in dollars, and a large part of their overseas business is with U.S.-based multinational firms and traders that deal largely in dollars. Hence, it seems likely that the most important group of banks among the "makers" of the Eurocurrency market will continue to have a strong preference for dollars. However, it has been suggested that the announced phaseout of U.S. capital controls will

12. So long as central banks intervene in the exchange market to influence the value of their currencies, a regime in which *all* major currencies are floating is virtually impossible. There will be a tendency for central banks to control the exchange value of their currency in terms of the leading international currency. Since this currency serves as the international standard of value, it cannot float in the sense that its value changes proportionately in relation to all other currencies simultaneously. This situation has been referred to as the  $n-1$  problem. If there are  $n$  currencies, there can be only  $n-1$  exchange rates expressed in terms of the standard of value. While the dollar is the standard, the only way that the value of the dollar can be changed by a uniform percentage in terms of all other currencies is for the value of all other currencies simultaneously to change by a like percentage in terms of the dollar. This requires an international agreement such as was negotiated in December 1971, and again in February 1973, since a uniform change in the value of all nondollar currencies in terms of the standard would almost certainly not occur as a consequence of the actions of individual countries.

mean a reduction in the operations of foreign branches of U.S. banks.<sup>13</sup> Nevertheless, we are inclined to believe that the penetration of the U.S. banking industry abroad, like that of U.S.-based multinational firms, is likely to remain and to grow in significance.

A third factor explaining the past position of the dollar in both the Eurocurrency and Eurobond markets is the relationship of these Euromarkets to the large U.S. financial market. To reemphasize a basic point, the Eurocurrency markets are markets for transactions *in the currencies of different countries*; Eurocurrencies are not simply units of account. The same is true of a Eurobond which calls for payment of interest and principal in dollars or in some other international currency. Eurocurrency and Eurobond operations not only involve real transfers of the currencies in which they are denominated, but large flows of funds into and out of a particular Eurocurrency market will have an impact on the domestic money market of the country whose currency is involved.

At the middle of 1972, the estimated net size of the Eurocurrency market (the BIS definition) was \$85 billion, of which the Euro-dollar component was \$65 billion.<sup>14</sup> The former figure is six times the total value of Swiss franc currency and demand deposits and nearly two and one-half times the total volume of German currency and demand deposits. If the bulk of the Eurocurrency market took the form of Euro-Deutsche marks and Euro-Swiss francs—which account for over 80 percent of Eurocurrency liabilities other than Eurodollars—large movements of funds into and out of the Eurocurrency market could have very disturbing impacts on the domestic monetary systems of these countries, so much so that their monetary authorities might take action to prevent the use of their currencies for this purpose. On the other hand, large movements in and out of Eurodollars would scarcely have a noticeable impact on the U.S. money market. Moreover, the predominant position of U.S. banks in the Eurodollar market assures that a dollar “crunch” could only be of temporary duration, since the U.S. parent banks

13. See Hugh Stephenson, “Shadow Over Banks in London: American Phaseout of Curbs May Hurt,” *New York Times*, February 25, 1973.

14. Morgan Guaranty Trust Company of New York, *World Financial Markets*, September 19, 1972, p. 4.

could quickly provide an ample volume of dollars.<sup>15</sup> The large dollar holdings of foreign official institutions also provide a potential source of support for the Eurodollar market.<sup>16</sup>

### *Implications for International Monetary Reform*

At the time of writing (April 1973), negotiations are being initiated by the Committee of Twenty<sup>17</sup> on the reform of the international monetary system. Despite important differences among the IMF members, the addresses of the finance ministers of the major countries at the Annual Meeting of the Board of Governors of the IMF in September 1972, including that of the U.S. Secretary of the Treasury, revealed a general desire to move toward a more symmetrical role of the dollar in relation to other currencies. In his address to the Board of Governors, Secretary of the Treasury Shultz<sup>18</sup> outlined in broad terms a proposal for international monetary reform that would (a) reduce the role of the dollar as a reserve currency but not eliminate that role; (b) give the dollar the same technical possibilities for exchange-rate flexibility as other currencies; (c) impose on surplus countries a responsibility for balance-of-payments adjustment equivalent to that of the deficit countries; and (d) establish changes in holdings of official reserves by individual countries as the principal criterion for determining the obligations of both surplus and deficit countries to take balance-of-payments adjustment measures. A full examination of the issues raised

15. The Eurodollar market has been characterized from time to time by a temporary shortage of dollar funds which has resulted in a very sharp rise in interest rates on day-to-day funds.

16. During 1968 and 1969 when U.S. banks were borrowing heavily from the Eurodollar market, both the BIS (by drawing on its swap agreement with the United States) and European central banks intervened from time to time in the Eurodollar market to relieve the pressure on interest rates arising from heavy demands for Eurodollar funds. See, for example, Charles A. Coombs, "Treasury and Federal Reserve Foreign Exchange Operations," *Monthly Review*, Federal Reserve Bank of New York, March 1969, pp. 43-56.

17. Established at the Annual Meetings of the Board of Governors of the IMF, September 1972.

18. "Statement by George P. Shultz, Secretary of the Treasury and Governor of the Fund and Bank for the United States, at the Joint Annual Discussion," Board of Governors 1972 Annual Meetings, Washington, D.C., Press Release No. 21, September 26, 1972.

by these proposals and of alternative proposals put forward by the representatives of other IMF members at the September 1972 Annual Meeting would take us far afield. Therefore, our discussion will be limited to the implications of our analysis of foreign dollar balances for certain aspects of the international monetary reform proposals.

#### THE COMPOSITION OF OFFICIAL RESERVES

If the dollar is to have a reduced role in the total volume of official reserves, consideration must be given to the disposition of the large accumulated holdings of official American dollar balances, which totaled over \$61 billion at the end of December 1972, and which rose to over \$70 billion by mid-March 1973.<sup>19</sup> Foreign official holdings of American dollar balances plus official holdings of Eurodollars (the latter being estimated at \$15–\$20 billion at the end of 1972)<sup>20</sup> constituted about half of all foreign official reserves as of December 1972.<sup>21</sup> Our earlier analysis suggests that even with the restoration of confidence in the exchange value of the dollar, a substantial portion of the official holdings of American dollars is not likely to be shifted to foreign private holders. Increases in foreign private liquid dollar holdings are likely to take the form of Eurodollars rather than American liquid dollar assets. Some return flow of U.S. resident capital that moved into foreign currencies during 1970, 1971, and 1972 might be expected; but even if the total amount of this flow, as indicated by the errors and omissions item in the U.S. international accounts over the years 1970–72, were to return to the United States, this would take no more than \$16 billion of the official dollar holdings. If we assume that this amount of short-term funds held by U.S. residents abroad returned to the United States, and if, in addition, we assume that another \$10 billion were more or less permanently held by foreign official institutions as working balances, this would still leave a balance of some \$35 billion in foreign official holdings of American

19. *Federal Reserve Bulletin*, March 1973, p. A78, Table 6.

20. Based on an estimate of \$25–\$30 billion for total Eurocurrency holdings of foreign official institutions given in *World Financial Markets*, Morgan Guaranty Trust Company of New York, March 22, 1973, p. 6.

21. *International Financial Statistics*, April 1973, p. 19.

dollars, plus whatever net accumulation takes place after December 1972.<sup>22</sup>

The fact that foreign central banks hold a portion of their official reserves in the form of Eurocurrency deposits also raises problems for the composition and volume of the world's official reserves. One of the purposes of the SDR facility created in 1969 (and a major objective of virtually all current proposals for international monetary reform) is the achievement of international control over the volume of official reserves. The redepositing of official reserves in Eurocurrency banks makes for instability in the volume of official reserves.<sup>23</sup> Such redepositing may also be employed to conceal the volume of these reserves.<sup>24</sup> This practice would interfere with an internationally supervised balance-of-payments adjustment mechanism based on changes in the level of each country's official reserves, such as that envisaged by the U.S. Secretary of the Treasury in the reform proposals noted above.

Regarding the Eurocurrency element in official reserve holdings, the suggestion has been made that central banks should agree not to hold Eurocurrencies. As has been mentioned earlier, in the spring of 1971, the central banks of the Group of Ten entered into an agreement not to increase their Eurocurrency holdings. While an agreement not to hold Eurocurrencies might be reached by the central banks of the major industrial countries, a large portion of the Eurocurrency holdings of foreign central banks is held by central banks in countries outside Western Europe. At the end of 1971,

22. In the first quarter of 1973, the United States had an official settlements deficit roughly estimated at \$10.5 billion, seasonally adjusted. (*World Financial Markets*, Morgan Guaranty Trust Company of New York, April 24, 1973, p. 5.) A substantial portion of this deficit was probably caused by the outflow of U.S. resident capital, and most of this capital is likely to return with the advent of foreign-exchange stability.

23. As has been explained in Chapter 3, the depositing of reserve currencies in Eurocurrency banks tends to increase the total volume of the world's official reserves. Moreover, they can be quickly liquidated; and under a system of convertible currencies, the actual currencies could be presented to the monetary authorities for conversion into reserve assets such as gold or SDRs.

24. For example, at the end of October 1972, Japan reported official reserves of \$17.8 billion. However, it has been disclosed that at that time, the Japanese government held \$1.8 billion in deposits with foreign commercial banks, \$2.5 billion in deposits with Japanese commercial banks, and \$900 million in medium- and long-term foreign bonds, none of which was included in the reported holdings of official reserves. (*Wall Street Journal*, November 1, 1972, p. 6)

nearly two-thirds of the \$10 billion of (identified) Eurodollar holdings of central banks were held by central banks outside the ten major industrial countries.<sup>25</sup> (This is probably a considerable underestimate, since, as noted in Chapter 2, there is in existence a substantial sum of unidentified Eurocurrency holdings of official institutions.) At the end of 1972, total central bank and government holdings of Eurocurrencies were estimated to be between \$25 and \$30 billion,<sup>26</sup> the bulk of which is believed to be held outside Western Europe.<sup>27</sup> It would be difficult, if not impossible, to convince most countries that they should hold their official reserves in SDRs or other assets yielding a low return or none at all. It is our view that Eurocurrencies are likely to become increasingly important as official reserve assets, and we see little likelihood of this trend being reversed.

#### DOLLAR CONVERTIBILITY AND OFFICIAL DOLLAR HOLDINGS

Most governments, including the United States, seem to envisage an eventual restoration of the convertibility of the dollar (and of other major currencies as well) into a noncurrency reserve asset, probably SDRs. Dollar convertibility will, of course, require an effective balance-of-payments adjustment mechanism plus adequate U.S. reserves to deal with temporary drains. In addition, it is generally believed that some disposition must be made of the large official holdings of American dollars as a condition for restoring and maintaining the convertibility of the dollar. There are several proposals for dealing with these official dollar holdings, none of which is entirely satisfactory to all concerned. For example, these holdings could be funded into long-term U.S. obligations with an SDR-value guarantee, or they could be exchanged at the IMF for SDRs or special IMF deposits. In either case, the tendering of the official dollar assets (or other reserve currencies) could be made compulsory or optional for the holders. However, it appears unlikely that the U.S. government would favor a compulsory arrange-

25. *IMF Annual Report 1972*, Washington, D.C., p. 30.

26. *World Financial Markets*, Morgan Guaranty Trust Company of New York, March 22, 1973, p. 6.

27. An increasing amount of the foreign-exchange earnings of the governments of the Middle East petroleum-producing countries is believed to be flowing into the Eurocurrency market.

ment in the light of its stated position that the dollar should continue to serve as an official reserve medium. Moreover, some countries might want to maintain the existing level of their reserves, while others would prefer to exchange all of, or a portion of, their reserve currency holdings for long-term bonds with an SDR-value guarantee. One proposal is that foreign central banks be given an option of exchanging their dollars for SDRs by a specified date, after which time their dollar holdings would be ineligible for such conversion. However, an arrangement of this sort is likely to create difficulties, especially if foreign countries elect to retain a large proportion of their official dollars.<sup>28</sup> For one thing, the availability of these official dollars for payments to the United States would mean that this country could not earn reserve assets when it had a surplus. Also, a country electing to hold its reserves in dollars might sell the dollars to buy a third currency, with the dollars flowing into other central banks. Would these dollars be convertible into SDRs, or would there be two kinds of foreign-held dollars, one convertible and the other inconvertible? A similar problem would arise if the country electing to hold dollars decided to place a portion of them in the Eurodollar market, in which case the dollars might flow into other central banks. If these dollars were convertible, the central banks acquiring them might present them for redemption to the U.S. Treasury. This could occur even when the United States was in equilibrium on basic balance account.

Even though Eurodollars are not obligations of the United States, developments in the Eurodollar market could cause a temporary drain, or threat of a drain, on U.S. reserves. A clear case would be the withdrawal by foreign central banks of a portion of the \$10 to \$15 billion in official Eurodollar deposits currently held and the presentation of these dollars to the U.S. Treasury for redemption in SDRs. Let us assume that a foreign central bank withdraws a billion dollars in deposits from foreign branches of U.S. banks. The immediate effect would be a transfer of American dollars to the

28. Many countries are likely to find American dollar assets or Eurodollars more attractive than SDRs as reserve assets. The interest yield on SDRs is likely to be much less than that on liquid dollar assets and, in addition, some countries may feel that dollars or other reserve currencies entail less risk than credits on the books of the IMF—credits which have value only so long as IMF members are willing to provide their own currencies against such credits.

foreign central bank. This action would tend to reduce Eurodollar lending by the U.S. foreign branches (or by the Eurobanking system as a whole). An equivalent amount of American dollars would, in turn, be received by the U.S. foreign branches as net Eurodollar lending declined. Some, not necessarily all, of the dollars representing net loan repayments to the U.S. branch banks might come from foreign central banks. Some of the dollar repayments might come from U.S. residents if foreign affiliates of U.S. corporations were forced to curtail their borrowing from the Eurodollar market. An increase in Eurodollar deposit rates might attract additional deposits from other central banks, unless there was an expectation of a depreciation in the value of the dollar. The rise in interest rates would also attract funds from the United States. Much the same chain of events would occur if the foreign central banks withdrew Eurodollar deposits from foreign commercial banks instead of U.S. foreign branches. The foreign commercial banks would either draw down their balances held in the United States or, perhaps more likely, would reduce their Eurodollar deposits with foreign branches of U.S. banks. In either case, there would be a transfer of American dollars to foreign central banks and, thus, an addition to official holdings eligible for conversion.

Developments along the foregoing lines could be set off if expectations of some future U.S. devaluation were to trigger a massive reduction of Eurodollar deposits, both private and official. The immediate effect would be a flow of American dollars to foreign central banks. Again, as Eurodollar lending was curtailed, there would be a reflux of dollars to the foreign branches of U.S. banks, part of which would come from the foreign central banks as foreign borrowers converted their domestic currencies into dollars to make repayments. During 1971, when there was a substantial decline in foreign nonbank Eurodollar deposits, it was offset in part by a rise in foreign official deposits, in part by dollars acquired by foreign commercial banks through swap arrangements with central banks, and in part by a flow of U.S. dollars to the market. The first two sources might not be readily available if foreign central banks had the option of acquiring other reserve assets from the United States. The third source would simply add to the flow of dollars to foreign central banks.

It should be emphasized that these are short-term drains that would be reversed as long as there was no long-run shift in the total foreign demand for American liquid dollar assets, or a substantial outflow of U.S. private funds to the Eurodollar market. Basically, what would be involved is a short-term capital flow from the U.S. parent banks to deal with a liquidity crisis in the Eurodollar market. Nevertheless, in view of the huge volume of Eurodollar claims, such flows could be quite sizable. The possible magnitude of these flows is difficult to estimate, but they could amount to many billions of dollars, quite apart from short-term capital exports by U.S. non-banking residents to the Eurodollar market.

Clearly, contingencies like those discussed in the preceding paragraphs would need to be taken into account in determining the level of U.S. reserves compatible with the convertibility of the dollar into SDRs, and in defining the extent of such convertibility with respect to accumulated balances. In the latter regard, a possible compromise solution would be to set some minimum percentage, adjusted to the circumstances of each country, for the amount of its official dollar claims (whether held directly or as Eurodollars) to be converted into long-term obligations.

#### THE ROLE OF THE DOLLAR AS AN INTERVENTION CURRENCY

Another key issue in any international monetary reform program concerns the role of the dollar as an intervention currency. Throughout the postwar period, the dollar has had no rival for the intervention function. Following the Smithsonian Accord of December 18, 1971, most major industrial countries adopted "central rates" expressed in terms of the U.S. dollar, and agreed to maintain their exchange rates within a margin of  $2\frac{1}{4}$  percent above and below the central rate for their currency registered with the IMF, giving a total spread of  $4\frac{1}{2}$  percent in relation to the dollar. Other countries, including France and the United Kingdom, maintained their existing par values with the Fund, while others adopted new par values. This system of par values, or central rates, was weakened somewhat by the British decision to float the pound sterling in June 1972, and the system collapsed in February and March of 1973. The second devaluation of the dollar, by approximately

10 percent, was announced on February 19, 1973, together with the floating of the Japanese yen. Intense speculation against the dollar and certain other currencies led to the initiation in March 1973 of a joint float among the currencies of the following EC countries: Germany, France, the Netherlands, Belgium, Luxembourg, and Denmark; they were later joined in the float by the non-EC countries of Sweden, Norway, and Finland. The currencies of the other EC countries—the United Kingdom, Ireland, and Italy—floated independently of the EC float but were expected to become stabilized in relation to the other EC currencies at some time in the future. The joint float involves the maintenance of exchange rates among the EC currencies within a maximum margin of  $2\frac{1}{4}$  percent, but there is no fixed trading relationship with respect to the dollar. The EC currencies in the joint float are maintained within the  $2\frac{1}{4}$  percent band in relation to each other by means of intervention conducted in those currencies, while intervention in dollars apparently takes place unilaterally, with the central bank of each country influencing the relationship of its currency, and hence that of the entire group, to the dollar.

Should the EC joint float, enlarged eventually by the pound sterling and the Italian lira and perhaps other currencies, prove successful and enduring, another currency—possibly the Deutsche mark—will share the intervention role with the dollar. In time, there may be developed a common EC monetary unit which is convertible at a fixed rate into each EC currency, and which will be traded on the international currency markets.

At the present time, both international financial instability and the serious negotiations being conducted by the Committee of Twenty for the reconstitution of the international monetary system make it difficult, and perhaps foolhardy, to predict the future of the dollar as an intervention currency and international standard of value. Nevertheless, we believe it would be unwise to write off these functions of the dollar for the future, at least until another currency emerges with the prerequisites for performing them. These prerequisites explain the dominant international role of the dollar over the past several decades, namely, a large stake in world trade, investment, and banking, and a massive volume of international

obligations denominated in the national currency. Perhaps only a common EC monetary unit such as that described above could meet these qualifications. The fact that a currency is strong does not necessarily make it a good candidate for the standard of value and intervention role. In fact, a very strong currency is quite likely to appreciate vis-à-vis all other currencies and, hence, would be unacceptable to international debtors.<sup>29</sup> Conversely, a very weak currency becomes unacceptable to international creditors.

It is quite possible that the partial floating rate system in effect since February 1973 might continue with the dollar serving as the principal intervention currency. Under this system, major foreign countries are intervening in the foreign-exchange market to control the dollar value of their currencies but at the same time are avoiding any substantial additional accumulation of American dollars. This may well prove to be the most feasible means of achieving and maintaining a pattern of exchange rates consistent with general balance-of-payments equilibrium. However, the fact that virtually all IMF members favor a return to some form of par value system in which currency parities are expressed in terms of the SDR<sup>30</sup> suggests that in time the world may abandon the present floating rate system and adopt a par value system based on the SDR. But the SDR in its present form cannot be privately held or traded in the exchange markets against national currencies, nor does it seem likely that such an SDR will be devised. Consequently, the SDR cannot serve as an intervention currency. Moreover, a par value system based on the SDR cannot be established until an intervention currency exists which is stable in terms of the SDR and convertible into it. The fact that the dollar is formally defined in terms of the SDR but is not convertible into it means that the conditions for an enduring par value system are not met.

29. The European Payments Union was established in 1950 precisely because the dollar was too strong to serve as the intervention currency for freely convertible European currencies. De facto convertibility among the European currencies was achieved via the Clearing Union.

30. Nearly all of the statements made by the Governors of the IMF at the Board of Governors 1972 Annual Meeting favored a par value system based on the SDR. Only France among the major industrial countries favored defining parities in terms of gold and the establishment of an international gold standard system.

The above analysis suggests that if the dollar is to perform twin roles of intervention currency and de facto standard of value in a future par value system, there must be a restoration of confidence in the stability of the dollar in terms of the de jure standard, the SDR, and this would seem to require convertibility of the dollar into SDRs. Furthermore, the U.S. objective of providing full symmetry between the dollar and other major currencies so that the dollar has the same degree of exchange flexibility as other currencies, even to the extent of enabling the dollar temporarily to float freely on the exchange markets, would appear to be incompatible with the intervention role.<sup>31</sup> While under a new international monetary system there may occur changes in the value of the dollar in terms of the SDR, such changes must necessarily be infrequent as compared with parity changes of other currencies. Frequent changes in the value of the dollar in terms of the SDR might well lead to chaotic conditions in the exchange market, since a large number of countries would tend to follow the dollar while others would maintain their currency parities in terms of SDRs, thereby changing the entire pattern of cross rates. If and when the EC countries are able to evolve a common monetary unit, and this unit gains prominence both as a transactions medium and an intervention currency among a large number of countries, the principal focus in a decision to change the value of the dollar in terms of SDRs would, in effect, be a change in the relationship between the dollar and the EC monetary unit, with most of the currencies of the rest of the world lining up with one or the other of the two de facto standards.

The problems sketched above have important implications for exchange-rate adjustments, which are expected to play a far more important role in balance-of-payments adjustments in the future than in the past. While we do not regard these problems as insoluble, outlining possible solutions, such as a system of multiple currency intervention or a system under which the IMF would regulate

31. For example, if the United States wanted the dollar to float freely temporarily, it could do so only if all the major industrial countries would agree not to employ the dollar as an intervention currency, i.e., not to buy or sell dollars against their own currencies in the exchange market. Exchange rates between nondollar currencies would need to be maintained within the prescribed limits above and below parity by the use of a nondollar intervention currency.

currency parities in order to maintain effective exchange rates,<sup>32</sup> is beyond the terms of reference of this study.

32. The effective exchange rate is the weighted composite value of all other currencies in terms of a country's currency. Practically, it has significance only in terms of a percentage change in the effective rate from one period to another. For an excellent discussion of the proposal for achieving exchange-rate adjustments by means of altering effective rates—thereby solving the problem of changing the value of the currency that serves as the intervention currency—see Henry C. Wallich, *The Monetary Crisis of 1971—The Lessons to Be Learned* (Per Jacobson Foundation Lecture, September 14, 1972), Washington, D.C.: International Monetary Fund, 1972.