Implications of the Future Evolution of the International Monetary System

The main paper for the penultimate session of the seminar was by Barry Eichengreen and Jeffrey A. Frankel, who were asked to look ahead to see how the role of the SDR might be affected by future changes in the international monetary system. How, for example, would the monetary character of the SDR be affected by the establishment of a single currency in Europe? Would the SDR be more likely to fulfill the role originally envisaged for it if the major industrial countries undertook to more firmly stabilize their exchange rates? That paper and the more general issues were discussed by Fabrizio Saccomanni (whose paper was co-authored by Tommaso Padoa-Schioppa), Onno Ruding, and Wendy Dobson.

The SDR, Reserve Currencies, and the Future of the International Monetary System

Barry Eichengreen and Jeffrey A. Frankel

Much as the strength of the Bretton Woods institutions has always been their adaptability, the same can be said of the SDR. The instrument was created in the 1960s to avert the prospect of a liquidity shortage that threatened the stability of the Bretton Woods system. But by the time two SDR allocations had taken place in the 1970s, circumstances had been transformed. The price of gold had risen, inadequate liquidity had become excessive liquidity, and pegged but adjustable exchange rates had given way to floating. After initially being defined in terms of gold, the SDR was redefined in terms of 16 currencies in 1974 and in terms of 5 currencies in 1981. Yet despite these adaptations and changing circumstances, the instrument is still very much with us.

The SDR competes with national monies that are possible candidates for international use, including the dollar, the deutsche mark, and the

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1 The authors thank Ralph Bryant and Maury Obstfeld for helpful discussions and Alan Kackmeister for research assistance.
yen. It competes most directly with these currencies (and also with gold) as a reserve asset held and traded by central banks. The question therefore arises whether there will be a role for the SDR in the changed circumstances of the future, and if so whether it can be justified in terms similar to those of the past. Our topic in this paper is whether the future of the international monetary system will provide such a justification.

Answering this question requires a forecast of how the international monetary system will evolve from here. We construct our forecast using economic logic and by extrapolating historical trends, and distinguish three phases in the likely future evolution of the international monetary system. The first, the immediate future, will extend the movement toward exchange rate flexibility and capital mobility. Neither of these trends, we argue, will significantly enhance the role of the SDR; if anything, the opposite will be true. The second phase, what we call the intermediate future, adds to this picture the possibility of monetary union in Europe. Economic and Monetary Union (EMU), if and when it occurs, will have significant effects on the demand and supply of international reserves. Several of these work in opposite directions, however. On balance, they are therefore unlikely to create a significant demand for SDRs.

Any analysis of the third phase, the distant future, is necessarily the most conjectural. In the spirit of "social science fiction," we hazard a glance fifty years ahead and ask whether a world of monetary blocs or a single world currency will create a role for the SDR. Again, our conclusion is largely negative.

Essentially, we conclude that the dollar will remain the leading international currency. Assisted by newcomer currencies, particularly the deutsche mark and the yen, it will satisfy the needs of the international monetary system.

What might the SDR supply that the others cannot? There are two possible answers: an adequate total supply of reserves and an attractive, stable unit of account.

If the supply of reserves was inadequate under a system where international reserves were created only by individual countries—a modern Triffin dilemma—new issues of SDRs could make up the difference. But we think that the Triffin dilemma is obsolete under the multiple reserve currency system. If dollar liabilities—or deutsche mark or yen liabilities—ever become so great in relation to the gold or other international reserves held by the issuing country (or the exports, or GDP, or net international investment position) as to bring their value into question, central banks could simply switch to the currencies of new rising countries in which they have confidence. The multiple reserve currency
system may not make for stable exchange rates, but it does not want for reserves.

The story is somewhat different as regards a unit of account to use for pegging, invoicing trade, denoting debt, and so forth. Economies of scale tend to make a one-currency system more efficient than a multiple currency system in these functions. The SDR, computed as a basket, is in some ways an intrinsically more attractive unit of account than the dollar or other single currencies. But a review of the attributes that make for a successful international currency suggests that the SDR is an unlikely candidate, even if the dollar was to fall from the number one slot over the next fifty years. The SDR simply does not have a natural constituency, which is a prerequisite for a currency to come into widespread use.

We start with a section on analytical issues. We then analyze the bases for an international currency, with particular reference to the SDR but also considering its rivals. With this material in hand, we consider the likely future role of the instrument in the operation of the international monetary system.

Analytical Issues

The SDR was originally created as a form of international reserve. Our discussion of its past and future therefore begins with countries’ motives for holding reserves. We analyze how changes in the structure of the international macroeconomic environment—toward greater exchange rate flexibility and international capital mobility—affect the demand for reserves. We seek to clarify several confusions: whether capital mobility and floating exchange rates obviate the need for reserves, whether all countries can accumulate reserves simultaneously, and whether the advent of exchange rate flexibility and capital account convertibility has removed instability in the reserve supply process of which Robert Triffin warned.

Capital Mobility and Demand for International Reserves

According to traditional wisdom, countries hold reserves to smooth the time profile of production and consumption and to insulate their economies from balance of payments shocks. Consider, for example, a country linked to the rest of the world by merchandise trade alone (financial capital is immobile internationally). An adverse shock to its terms of trade will cut its capacity to import. If the country reduces imports of intermediate inputs, domestic production will be disrupted. A
lower-cost strategy may be to maintain the flow of imported inputs, financing them out of reserves until the terms of trade recover or domestic sources of supply can be developed. Similarly, it will not be efficient for a country suffering a temporary disturbance to cut consumption when the shock hits, only to raise it once the shock passes. Rather, its government will wish to smooth consumption, using reserves to finance the deficit in the country's trade.

This thought experiment assumes no international capital mobility. It is sometimes asserted that capital mobility removes the motive for holding reserves. It eliminates the need to hold reserves in order to smooth the time profile of production and consumption insofar as countries can accomplish this by borrowing or lending in the private market. The proposition that capital mobility renders reserve holding obsolete is correct strictly within the confines of certain models. In practice, however, it is incorrect.

Obstfeld (1993) constructs a model of a world of perfect capital mobility in which the demand for reserves is zero. Some authors have taken the implications of such models quite literally. Thus, Schroder (1990, p. 70) argues strongly that capital mobility reduces the demand for reserves and eliminates the rationale for SDRs: "as long as the international capital markets continue to function, there is no danger of a shortage in international liquidity and therefore no convincing economic reason for creating SDRs."

But Obstfeld's result depends on the assumption that countries can borrow without limit at the world interest rate. In reality, even when statutory and technological barriers to international capital mobility are absent, countries cannot borrow in unlimited amounts at that interest rate. Default risk is a problem, particularly because of the absence at the international level of any sort of bankruptcy court. Asymmetric information and adverse selection therefore cause lenders to charge higher interest rates as the borrowers' indebtedness grows (Stiglitz and Weiss, 1981; Eaton and Gersovitz, 1981). In other words, governments must allow the domestic interest rate to rise to attract foreign capital. Periods when they especially need reserves—namely, balance of payments crises—are precisely when they cannot borrow at the going interest rate. They may be able to borrow, at least to an extent, at higher interest rates. But higher interest rates have costs; like lower supplies of inter-

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2 Indeed, in models of asymmetric information and adverse selection like that of Stiglitz and Weiss, there may be no interest rate that clears the market. As the level of interest rates rises, so does the riskiness of the marginal borrower, who may find himself rationed out of the credit market.
mediate inputs, they can disrupt production. Governments may find it intolerable to raise rates to whatever level is needed to finance balance of payments shocks. They may find it prudent to finance a portion of transitional payments deficits out of international reserves.

Ultimately the argument is an empirical one. Countries continue to hold reserves; therefore, they must find them useful.

One might think that the advent of capital mobility would nonetheless reduce the demand for reserves, since countries can finance at least a portion of their external deficits by borrowing abroad. But this assumes that the capital account is not itself a source of financial instability. Even countries with floating currencies continue to hold reserves with which to intervene in the foreign exchange market and dampen variability in the exchange rate. But a high degree of capital mobility can increase the variability of the exchange rate, thereby increasing the demand for reserves. Countries with pegged exchange rates may suffer larger balance of payments shocks when capital mobility is high. Sudden changes in the price or availability of external finance such as Mexico experienced in 1994 can destabilize balances of payments in general and those of heavily indebted countries in particular. The existence of this additional source of disturbance may heighten the need for insulation. Hence, there can be no presumption that the advent of capital mobility either raises or lowers the demand for reserves. Which effect dominates is again an empirical question.

Exchange Rate Flexibility and Demand for International Reserves

Similar statements regarding the obsolescence of reserves accompanied the move toward floating exchange rates in 1971–73 (for citations, see Heller and Khan, 1978). It was anticipated that more frequent exchange rate adjustments would enhance the scope for using relative prices to adjust to balance of payments shocks. Countries with payments deficits could simply depreciate their currencies, improving their export competitiveness and the attractiveness of their assets. This mechanism would eliminate the need for reserves.

While the use of exchange rate changes to offset shocks is a staple of international economics textbooks, governments are reluctant to make full use of the instrument. That exchange rates continued to be man-

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3 Thus, the Governments of Sweden and the United Kingdom found in 1992 that raising interest rates to extreme heights did not placate speculators. Possession of international reserves may help to deter at least certain kinds of speculative attacks in the first place.
aged following the breakdown of Bretton Woods is no coincidence in our view. Large exchange rate changes have economic costs that render governments reluctant to undertake them. Depreciations can lead to inflation, depress output by raising the prices of imported inputs, increase the burden of servicing debts denominated in foreign currency, and threaten the solvency of banks with liabilities denominated in foreign currency. Exchange rate volatility per se is undesirable because it can discourage international trade and investment.

In fact, with the demise of the Bretton Woods system, the demand for reserves did not decline, let alone disappear. Even the demand for reserves by the industrial countries, most of which adopted some form of floating exchange rates, continued to grow in nominal terms, though some studies found a modest decline relative to appropriate benchmarks. And there was continued growth in the demand for reserves by developing countries, the vast majority of which continued to peg in the short run and used reserves to accommodate fluctuations in the availability of debt finance (Heller and Khan, 1978; Frenkel, 1980). This difference in behavior was predicted by the literature on choice of exchange rate regime (for example, Heller, 1978), in which it was argued that relatively large countries with diversified exports and well-developed financial markets can afford to float, while their smaller, less diversified, less developed counterparts will prefer to peg. Insofar as the former rely more on exchange rate changes for adjustment, they may have a lower demand for reserves.

Even for countries prepared to float, there can be no general presumption that this automatically reduces their demands for reserves. Just as with international capital mobility, this conclusion assumes that foreign exchange markets were not themselves a source of disturbance. Authors like Rose (1994) document that the increased volatility of exchange rates after 1973 has not been associated with increased volatility of fundamentals, suggesting that at least some shocks are indigenous to the foreign exchange market (the literature is surveyed in Frankel and Rose, 1995 and Frankel, 1996). Authors like Woodford (1991) model these shocks in terms of extrinsic (sunspot) noise. The increased volatility of exchange rates for any given level of intervention, or the increased amount of intervention necessary to accomplish any given level of volatility, can then imply an augmented demand for international reserves.

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4 A relatively recent review of the literature appears in Cangiano and Saracino (1990), with updated estimates.
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Understanding the Triffin Dilemma

After World War II, the U.S. dollar was the only major currency that was freely convertible, even just for current account transactions. Aside from gold, whose supply was relatively inelastic and which did not pay interest, this made dollars the only form of reserves. Under these circumstances, not all countries could accumulate net reserves simultaneously. As a group, other countries could accumulate net reserves only by importing gold or dollars from the United States. Collectively, they had to run balance of payments surpluses. But since the global balance of payments must sum to zero, the United States had to run deficits. In other words, the rest of the world could increase its claims on the United States only if the United States increased its liabilities to the rest of the world: the U.S. net reserve position had to fall for that of the rest of the world to rise. In a world without capital mobility, foreign central banks and governments could not borrow on the private U.S. market to obtain reserves; they could accumulate reserves only by acquiring claims against the U.S. authorities, implying a decline in the net reserve position of the latter.

This accounting identity is the source of the Triffin dilemma. If the United States allowed its balance of payments to remain in deficit, accommodating the demands of the rest of the world for additional foreign exchange reserves, U.S. international monetary liabilities would rise relative to U.S. reserves. Because this meant that net U.S. reserves declined (rather than rising with the growth of the U.S. economy), the system would have been in long-run disequilibrium. The ratio of dollar liabilities to U.S. gold reserves (or to U.S. export capacity) would rise without limit. Eventually the ability of the United States to convert dollars into gold at the statutory price of $35 an ounce would be called into doubt. Other countries would rush to convert their foreign exchange into gold before the U.S. gold window was closed, liquidating the gold-dollar system. On the other hand, if the United States raised interest rates and deflated to eliminate its balance of payments deficit, other countries would have been collectively unable to augment their dollar balances. In their desperate scramble for reserves, those other countries would have been tempted to deflate even more than the United States, subjecting the world economy to intense deflationary pressure.6

5 Triffin’s first warning to this effect is Triffin (1947). His best-known statement of the problem is Triffin (1960).
6 As we shall see below, this is the scenario that Triffin himself particularly feared.
Does International Capital Mobility Remove the Triffin Dilemma?

In the post-World War II world of controls to suppress international capital movements, the only way for governments and central banks outside the United States to obtain additional reserves was by running balance of payments surpluses against the United States and importing gold or obtaining claims against the U.S. Government. An increase in the net reserves of the rest of the world had as its counterpart a decline in the net reserves of the United States (an increase in its net monetary obligations to foreigners). Reserve distribution was a zero-sum game, creating an argument for an SDR allocation to allow all countries to obtain additional reserves simultaneously to match the growth of their economies.

With the recovery and liberalization of international capital markets, this constraint has been removed. The Federal Reserve can now borrow or buy foreign currencies from private traders on foreign capital markets (and even in its own financial markets) at the same time that foreign central banks borrow or buy dollars on the U.S. market (or in the Euro-markets). For every asset there is still a corresponding liability; international capital mobility does not remove the constraint that the global balance of payments must sum to zero. If the Federal Reserve sells treasury bonds (or dollars) to private foreign investors in order to augment its foreign exchange reserves, it incurs an additional financial liability to foreigners. But it does not follow that the Federal Reserve has failed to augment its stock of reserves. The name "reserves" is bestowed on the assets of the authorities denominated in foreign currency precisely because they are in official hands. Compare the situation in which the authorities hold treasury bonds of their own issue that they can sell for foreign exchange. While in the first situation we say they possess reserves, we do not say the same about the second precisely because there may be circumstances in which the market is unwilling to buy those treasury bills, or similar domestic currency assets, at any price. These circumstances, of course, are precisely those times when reserves are most valuable. In short, the world's central banks can indeed take advantage of international financial markets to create reserves.

This is not to deny that short-term dollar liabilities in the hands of foreigners (to continue with the example of the Federal Reserve) are a possible source of dollar instability. A measure of the dollar liabilities in the hands of foreign central banks has a place on the long list of variables

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7 For simplicity, this discussion puts aside alternative sources of reserve supply such as newly mined gold, IMF quota increases, and SDR allocations. The ultimate question of interest is whether the system can function well without the latter.

8 Analogously, we do not add or subtract the dollars held by foreign central banks.
that might influence the probability of adverse speculation or the probability of successfully withstanding it. Other possible variables on this list include the dollar liabilities in the hands of foreign private citizens, dollar liabilities in the hands of domestic citizens, aggregate short-term liabilities of domestic residents vis-à-vis foreigners (regardless of currency of denomination), domestic holdings of foreign short-term assets, net dollar indebtedness to foreigners (whether long-term or short-term), net foreign currency indebtedness to foreigners (whether long-term or short-term), and the rate of change of some of these variables, especially of net overall indebtedness to foreigners (that is, the current account) (see Eichengreen, Rose, and Wyplosz, 1995). But even if all these things may matter, there is still a distinct role for reserves per se—as suggested by the observed continued desire of all central banks to continue holding them. Thus, no particular argument seems to exist for netting out foreign holdings of domestic currency from the measure of domestic reserves. If anything, liquid dollars held by private citizens are a greater possible threat to the Federal Reserve than those held by other central banks.

Hence, the advent of highly developed and integrated international financial markets has removed the zero-sum nature of reserve distribution. This is why the official statistics, reported in Table 1, show total foreign exchange reserves increasing year after year—by $3.5$-fold between 1978 and 1995. Indeed, so far as the authors are aware, no official source reports figures for the net balance of payments, or net holdings of reserves, with net defined as netting out foreign central bank holdings of the domestic currency. A system in which the Federal Reserve, the Bundesbank, and the Bank of Japan can all transact in one another's private markets simultaneously has eliminated one traditional argument for the creation of a synthetic reserve asset like the SDR.\footnote{An alternative respectable view does certainly exist. Williamson (1963), for example, argued that in a multiple reserve currency system, central banks' holdings of each other's currencies should be netted out. We think that this issue deserves more careful consideration than it has received in recent years. One could argue that the world needs a (growing) international reserve asset that is more "high-powered" than dollar reserves or other major currencies. The argument would go by analogy. While commercial banks can create money (deposits, which are "reserves" from the viewpoint of the portfolios of the private citizens who hold them), a country needs a (growing) high-powered monetary base to back up that money supply. Analogously, while central banks can create their national monetary bases (which are reserves from the viewpoint of the balance sheets of their commercial banks), the world needs a (growing) supply of international reserves, to back up these monetary bases. This much we have argued already. The question is now whether a (growing) component of international reserves must be more high powered than foreign exchange reserves, a component where all central banks' claims against each other and against the private sector are netted out. The argument would go through by analogy (Machlup, 1965) to the case of a country's monetary base, which nets out all of commercial banks' claims against each other and against private borrowers.}

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Table 1. Official Holdings of Reserve Assets (All Countries), End of Year
(In billions of SDRs)

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<td>259.5</td>
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1 End-April.
But if the foreign monetary liabilities of the United States, Germany, and Japan as a group continue growing relative to the size of their national economies (reflecting, presumably, the relatively rapid economic growth and incremental demand for reserves by the developing world, though it could also reflect excessive money creation by the reserve currency countries themselves), there might come a time when the ability of these countries to convert their liabilities into goods or other assets of value to those countries that hold their currencies as reserves would be called into doubt. The Triffin dilemma could be resurrected in a new guise.

Competition among prospective reserve currencies might conceivably help stabilize the system, however. As additional countries develop and remove their exchange and capital controls, they will become candidates for supplying international reserves. This would simply be a repeat of the evolution of the system in the 1970s and 1980s, when Germany and Japan liberalized their financial markets and acquired reserve currency status for the deutsche mark and the yen. One can imagine Singapore, for example, gradually acquiring reserve currency status (especially within East Asia). Countries that supply international reserves earn seigniorage. The advantages of seigniorage encourage those that meet the preconditions for supplying reserves to do so, holding constant other considerations.10 If the supply of reserves provided by the traditional reserve currency countries appears to be approaching unsustainable levels, there will be a demand for the newcomers to do so.11

The elasticity of these alternative reserve supplies will be greater in the long than in the short run; Le Chatelier’s principle should apply in this context like any other. But our point still stands: the dilemma created by the fact that there are only a limited number of national sources of international reserves will be removed by the elimination of controls on international transactions in other countries and the emergence of alternative sources of supply. There may be an argument for an SDR allocation to permit countries to obtain international reserves without expending real resources (without having to service the debts

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10 The costs and benefits to a country of having its currency attain international reserve currency status are discussed later (and in Frankel, 1995).

11 Historically, one can also see these dynamics at work in the rise of the dollar as a reserve currency relative to sterling prior to 1913, when the stability of Britain’s reserve currency status was threatened by its own Triffin dilemma (de Cecco, 1984 and Eichengreen, 1992).
they incur when borrowing on foreign markets, in other words), as suggested in Michael Mussa's paper in this volume (chap. 4). (This assumes, of course, that difficult issues of distributive equity can be finessed, and that the recipient governments will actually use their SDR allocations to acquire and maintain reserves, assumptions that should not be taken for granted.) But it does not alter our conclusion that open international capital markets remove the specter of a global reserve shortage and therefore eliminate one of the most powerful of the traditional arguments for an SDR allocation.

International Currencies: The SDR and Its Rivals

In this section we consider the extent to which different currencies are used internationally, both by governments and by private agents. Informed by the results of this "market test," we then describe the conditions that seem to make a unit suitable for international use. This leads us to a judgment on the international role of the SDR.

It is worth flagging one theme from the start: while our discussion of the aggregate supply of reserves in the preceding section concluded that a multiple reserve currency system might be more stable than the old dollar standard, this section points to powerful forces (economies of scale and scope) encouraging actors to specialize in the use of a single international currency (Krugman, 1984; Matsuyama, Kiyotaki, and Matsui, 1993). What is efficient at a point in time may not be stable over time, and vice versa.

Choice of Currency in Which to Hold Reserves

International uses of currencies can be categorized according to whether the decision is made by public monetary authorities or by private actors. They can also be distinguished according to such traditional functions of money as store of value, unit of account, and medium of exchange (Kenen, 1983). We begin by considering the actual composition of reserve holdings of central banks (the subject of the preceding section of the paper), before proceeding to the authorities' choice of a pegging currency, and then to the various uses in private markets.

Table 1 shows the levels of reserve holdings in the form of various currencies, including the SDR, as it has evolved over the last two decades. Table 2 presents the same information as percentage shares.

The figures show that the share of the dollar fell steadily in the 1970s and 1980s, as it made way for the increase in the deutsche mark and
### Table 2. Official Holdings of Reserve Assets (All Countries), End of Year

(As percentages of total foreign exchange reserves including SDRs)

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the yen. The rate of increase in the use of the latter currencies looks particularly rapid because they started from relatively low levels (especially the yen).

This trend reversed in the early 1990s, though one would never know it listening to popular commentary on the declining role of the dollar (Hale, 1995a and 1995b; Kindleberger, 1995; Kunz, 1995; and many others). Contrary to widespread belief, the figures show that the dollar's share in reserve holdings was virtually flat in 1994, and substantially up relative to 1990. The yen share, again contrary to expectations, was down slightly in 1994. The deutsche mark's share, while approximately flat in 1994, is down since 1990. In short, data for the 1990s show no acceleration of the downward trend in the dollar's share. If anything, they show the reverse.

What is going on in a short-term sense is that the Bank of Japan and major European central banks have in the 1990s bought the dollar on foreign exchange markets in order to prevent its value from falling more against their own currencies. They may not be happy with this situation, but they find it preferable to the alternative. In a longer-term sense, the dollar remains the leading reserve currency. Figures for 1995 may turn out to show a switch away from dollar holdings toward yen and deutsche mark, particularly among East Asian central banks. But it is unlikely that such a switch, when viewed in the historical perspective of Tables 1 and 2, would constitute an abrupt acceleration of the gentle downward trend of the 1970s and 1980s.

The share of the SDR peaked at 6 percent in 1982, which put it in third place, after the deutsche mark but before the yen. (The denominator in Table 2 is total foreign exchange reserves including SDRs, but excluding countries' reserve positions in the IMF and excluding gold.) The SDR share has declined since then, leveling off at 2 percent in the 1990s. The yen surpassed the SDR in 1984, and even the pound and French franc did so in 1992. This is not entirely a fair contest, since SDRs enter the system when the members of the IMF vote to create them, which they have not been doing. The other currencies become reserves when central banks choose to acquire them.

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12 The figures for the end of 1994 are available in the IMF's 1995 Annual Report, published October 1995. The descriptions in the text are based on the figures that count the dollar-backed portion of European currency units (ECUs) as dollars. If the ECUs are counted separately, the qualitative conclusions are similar. The dollar in 1994 is up a small amount and is strongly up relative to 1990. The deutsche mark is up by 0.1 percent, but clearly down relative to 1990. The yen is down slightly relative to either 1993 or 1990. (Counting ECUs separately became the preferred mode of presentation, for the first time, with the 1995 Annual Report.)
Perhaps the ECU (European currency unit) is a more appropriate competitor for the SDR than are the national currencies. The ECU, like the SDR, is defined in value as a basket of currencies, and like the SDR is created by a collective body of national governments. There is a private market in ECUs, unlike SDRs, so any central banks could in principle create ECU reserves by purchasing them on the private market. But most ECUs came into existence when the European Monetary System (EMS) was established in 1979, and are backed by international reserves (dollars), so that they are not as yet fiat money to the extent that SDRs are. Indeed, although ECUs are reported in Table 2 as constituting the third largest share of international reserves (approximately tied with the yen), one point of view is that they are simply dollars in disguise. (This point of view is favored by the authors, until such time as EMU successfully takes place.)

**Choice of Currency to Which to Peg**

The other major arena in which countries' monetary authorities must choose among major international currencies is the choice of which currency to peg to, among those countries that choose to peg. A country will tend to hold more of its reserves in the form of a given currency, other things being equal, if it also pegs to it. Conversely, it is more likely to peg to a given currency, other things being equal, if it is already using that currency in international dealings.

There are a priori reasons to think that the SDR should be a popular pegging unit. The dollar is the natural peg for Latin American countries, which undertake much of their trade with the United States (and with other countries linked to the dollar). Similarly, the deutschemark (or a prospective new EMU currency) is the natural peg for the typical European country, which undertakes much of its trade with other European countries. But in Asia, Africa, the Middle East, and elsewhere, countries tend to distribute their trade more equally among Japan, Europe, and North America. Pegging to any single major currency exposes them to the risk of large fluctuations relative to other currencies.

An obvious solution is a basket peg, with the weights determined to suit the country in question. To be sure, 31 countries are currently clas-

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13 The IMF itself favored this interpretation until recently, counting the dollar-backed ECUs as dollars in the main part of Table 1.2 in the *Annual Report*. Beginning with the 1995 *Annual Report*, dollar-backed ECUs have been granted equal status with the other foreign exchange reserves in the main part of the table. Tables 1 and 2 here follow the Fund in this change.
sifted as pegging to a composite of their own design. But these basket peggers tend to lose one of the principal advantages of a fixed exchange rate policy (after the first advantage, reducing exchange rate uncertainty). They lose the credibility of the nominal anchor to monetary policy. Basket peggers tend to keep the weights secret, to change the parity secretly and frequently, or to change the weights secretly and frequently. (Keeping the weights secret to begin with, of course, facilitates making the changes in policy in secret.) As a result, the public is unable to ascertain on a day-to-day basis, or even a month-to-month basis, whether the central bank is abiding by its officially stated policy of pegging the currency. Logically, this should undermine the credibility argument in favor of a currency peg.

One would think that the SDR would solve this problem. Its value is computed as a weighted average of five major currencies: the U.S. dollar, Japanese yen, deutsche mark, pound sterling, and French franc. While the weights are unlikely to match exactly the trade weights of a country in Asia, Africa, or elsewhere, they come reasonably close.\(^\text{14}\) A country that pegs to the SDR will not experience the large changes in effective exchange rates that have discouraged East Asian countries, for example, from pegging to the yen.

**Choice of SDR as Peg**

The use of the SDR as a currency peg showed the unit to its best advantage fifteen years ago. Now this measure also shows its stagnation. Table 3 presents the statistics. The number of countries pegging to the SDR stood at 14 in 1979, and then peaked at 15 in 1982. Many of them were in Africa or the Middle East. As a percentage of peggers, this was a rise from 16.4 percent in 1979 to 22.5 percent in 1982. But by 1995 (including up to the third quarter), the number had declined to only 3—Libya, Myanmar, and Seychelles—countries hardly at the frontier of international trade and finance. As a percentage of peggers, they constitute a mere 6.4 percent. (As a percentage of all members of the IMF, the SDR peggers rose from 8.9 percent in 1979 to 11.0 percent in 1982, only to sink to 1.7 percent in 1995.)

Despite a decline, the dollar remains the leading currency peg. In 1995, 23 currencies pegged to the dollar. This represented 49 percent of

\(^{14}\) There would be little point in matching basket weights precisely to a country's trade shares anyway; international capital flows and trade with smaller countries matter, in addition to bilateral trade.
Table 3. Currency Pegs

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<tr>
<td>arrangements⁴</td>
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<td>9</td>
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<td>10</td>
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<tr>
<td>Flexibility limited vis-à-vis</td>
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<td>a single currency⁵</td>
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<tr>
<td>Managed floating</td>
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<tr>
<td>Independently floating⁶</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other⁷</td>
<td>33</td>
<td>34</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total³</td>
<td>139</td>
<td>141</td>
<td>143</td>
<td>146</td>
<td>146</td>
<td>148</td>
<td>149</td>
<td>151</td>
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<td>156</td>
<td>167</td>
<td>175</td>
<td>178</td>
<td>179</td>
<td></td>
</tr>
</tbody>
</table>


¹Excluding the currency of Cambodia, for which no current information is available. For members with dual or multiple exchange markets, the arrangement shown is that in the major market.

²Comprises currencies that are pegged to various “baskets” of currencies of the member’s own choice, as distinct from the SDR basket.

³Includes exchange arrangements under which the exchange rate is adjusted at relatively frequent intervals, on the basis of indicators determined by respective member countries.

⁴Refers to the cooperative arrangement maintained under the European Monetary System.

⁵Exchange rates of all currencies have shown limited flexibility in terms of the U.S. dollar.

⁶Starting May 24, 1994, the Azerbaijan authorities ceased to peg the manat to the Russian ruble and the exchange arrangement was reclassified to “independently floating.”

⁷This category includes all currencies of countries under the headings of “flexibility limited in terms of a single currency” and “more flexible”: “other managed floating” and “independently floating.”

⁸Including the currency of Cambodia.
 peggers, down from 55 percent in 1979 (= 40/73) or 57 percent in 1975 (= 46/80). The French franc has remained steady, in second place, with 14 clients; this is 30 percent of 1995 peggers, up from 19 percent of 1979 peggers and 16 percent of 1975 peggers. The pound and the peseta each lost their last pegger in 1986. The pound's fall was from a grace of 9 percent of peggers in 1975. Still no currencies are pegged to the yen. One currency (the Estonian kroon) pegged to the deutschemark in 1990. The deutschemark, of course, also plays a central, if unofficial, role in the EMS. If one broadens the test to include countries that peg to a weighted basket, whether tightly or loosely, one again concludes that the dollar remains dominant within the baskets. Even among East Asian countries, where the yen occasionally has a statistically significant weight, the weight placed on the dollar is always far higher (Frankel and Wei, 1994).

Choice of an International Currency in Private Use

Measures of international currency status in private use, for 1990 and 1994, are shown in Tables 4 and 5. These measures are relevant to a consideration of the international monetary system for two reasons. First, one attribute of an international monetary system (along with the exchange rate regime and issues of reserves and liquidity) is which currency or currencies are in international use generally. Second, even if we are only interested in the question of which currencies are used as a form in which to hold reserves, the answer is correlated with the question of which currencies are in international use privately. An Asian central bank, for example, is more likely to hold reserves in the form of yen, if the yen comes into use in foreign exchange trading (as opposed to the present system, where the dollar is almost always used as the vehicle currency in Asia) and if private financial markets are otherwise well developed in yen.

The share of the SDR in private markets is small, generally negligible. The dollar is still on top, despite a gradual decline by some measures in its use versus the deutschemark and yen over the last twenty years. The trend is so gradual that it is hard to detect it over the four-year gap between the two tables.

15 A few other currencies, such as the South African rand and the Russian ruble, also account for a few pegs in some years, depending in part on the vicissitudes of politics.
Table 4. Importance of Major Currencies (Shares in International Use, 1990)

(In percent)

<table>
<thead>
<tr>
<th>Official Use of Currencies</th>
<th>Currency of Denomination in Private Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pegging of minor currencies</td>
<td>Foreign exchange trading in world marketse</td>
</tr>
<tr>
<td>Foreign exchange reserves held by central banks2</td>
<td></td>
</tr>
<tr>
<td>U.S. dollar</td>
<td>51</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>—</td>
</tr>
<tr>
<td>Deutsche mark</td>
<td>2</td>
</tr>
<tr>
<td>Pound sterling</td>
<td>—</td>
</tr>
<tr>
<td>Swiss franc</td>
<td>—</td>
</tr>
<tr>
<td>French franc</td>
<td>28</td>
</tr>
<tr>
<td>Canadian dollar</td>
<td>—</td>
</tr>
<tr>
<td>Italian lira</td>
<td>—</td>
</tr>
<tr>
<td>Dutch guilder</td>
<td>—</td>
</tr>
<tr>
<td>Australian dollar</td>
<td>2</td>
</tr>
<tr>
<td>ECU</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
</tbody>
</table>

1 Source: International Monetary Fund, International Financial Statistics. Data pertain to mid-1991. EMS countries are not counted as pegging to the ECU.
3 All data pertain to April 1989. All figures have been divided by 2 so that total adds to 100 percent rather than 200 percent. Figures for the major currencies pertain to trading in 21 financial centers (source: Tavlas and Ozeki, 1992, Table 23). Figures for the Swiss franc, French franc, and Canadian dollar (which exclude cross-currency trading) pertain to trading in New York, London, and Tokyo, which constitutes 60 percent of total world trading (sources: Federal Reserve Bank of New York, Bank of England, and Bank of Japan press releases, September 13, 1989).
4 Source: Table 23 in Tavlas and Ozeki, 1992. Data pertain to 1990.
5 Ibid. Data pertain to 1990 (includes international issues, foreign issues, and special placements).
6 Ibid. Data pertain to 1990. ("Other" includes foreign currency position of U.S. banks for which no currency breakdown is available.)
7 Calculation based on Black, 1991, Table 2. Data pertain to 1987. The original data pertain only to trade undertaken by the six largest industrial countries plus OPEC, and to their six currencies.
### Table 5. Importance of Major Currencies (Shares in International Use, 1994)

*(In percent)*

<table>
<thead>
<tr>
<th>Official Use of Currencies</th>
<th>Currency of Denomination in Private Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pegging of minor currencies(^1)</td>
<td>Foreign exchange reserves held by central banks(^2)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>U.S. dollar</td>
<td>50</td>
</tr>
<tr>
<td>Deutsche mark</td>
<td>2</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>—</td>
</tr>
<tr>
<td>Pound sterling</td>
<td>—</td>
</tr>
<tr>
<td>Swiss franc</td>
<td>—</td>
</tr>
<tr>
<td>French franc</td>
<td>30</td>
</tr>
<tr>
<td>ECU</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
</tr>
</tbody>
</table>

\(^1\) Source: International Monetary Fund, *International Financial Statistics*. Data pertain to end-1994. None of the EMS countries is officially classified as pegging to the deutsche mark or ECU.


\(^3\) All data pertain to April 1995. All figures have been divided by 2 so that the total adds to 100 percent rather than 200 percent. Figures pertain to trading in 21 financial centers. Source: Bank for International Settlements, Basle, March 1995.

\(^4\) Data pertain to 1993.

\(^5\) Ibid. Data pertain to end-1993 (includes international issues, foreign issues, and special placements).

\(^6\) Ibid. Data pertain to end-1993. ("Other" includes foreign currency positions of U.S. banks for which no currency breakdown is available.)
Vehicle Currencies in Foreign Exchange Trading. In the past, almost all trades in the foreign exchange market involved the dollar as the currency bought or sold. As recently as the mid-1980s, if a firm wanted to exchange pound sterling for deutsche mark, it had to trade pounds for dollars, and then dollars for deutsche mark. These days the firm would be more likely to be able to go directly from pounds to deutsche mark (Bank of England, 1992, or BIS, 1995). Largely as a result, only 83 percent of foreign exchange transactions in April 1995 involved the dollar, as opposed to 90 percent only six years earlier. Yet this is still twice the share of the deutsche mark. The dollar's share is equal to that of the next four competitors (the deutsche mark, yen, pound, and Swiss franc) combined. The figures are reported in Table 6. (When reported in the third column of Tables 4 and 5 they have been divided by two so that the total does not exceed 100 percent and they are comparable with the other measures.)

Denomination of Financing. Various measures of use of currencies to denominate private international financial transactions—loans, bonds, and deposits—show the dollar as the dominant currency. The yen has gained a little in terms of external bank loans, and the deutsche mark in terms of external bond issues.

The yen's share of long-term external financing is particularly high among developing countries. This is especially true in East Asia, where the Japanese Government lent freely in the 1980s. Among five major East Asian debtors, the yen’s share doubled in the 1980s (Frankel and Wei, 1994, p. 310). The proportion of long-term debt denominated in yen crossed the 50 percent mark in Thailand in 1993, with Indonesia, the Philippines, Malaysia, and Korea also above 30 percent. In East Asia and the Pacific overall, however, the yen’s share has not yet surpassed the dollar’s (at 30.0 percent in 1993, versus 31.1 percent).

Among long-term debt of developing countries in the aggregate, the yen remains a distant second to the dollar. The figures are reported in Table 7. The deutsche mark is in third place, followed by the French franc, the pound sterling, and the Swiss franc. In the mid-1980s, the SDR broke into these rankings, but its share has been steady at a paltry 0.2 percent. SDR-denominated debt is heavily concentrated among low-income countries (where it constitutes 0.6 percent of debt), particularly countries in South Asia and Africa (and to a lesser extent the Middle East and North Africa).16

16 These are mainly concessional loans and other loans from the international agencies themselves.
Table 6. Use of Selected Currencies on One Side of Transaction as a Percentage of Global Gross Foreign Exchange Market Turnover (Percentage shares)

<table>
<thead>
<tr>
<th>Currency</th>
<th>April 1989</th>
<th>April 1992</th>
<th>April 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. dollar</td>
<td>90</td>
<td>82</td>
<td>83</td>
</tr>
<tr>
<td>Deutsche mark</td>
<td>27</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>27</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Pound sterling</td>
<td>15</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>French franc</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Swiss franc</td>
<td>10</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Other currencies</td>
<td>29</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>All currencies</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>


Currency of Invoice in International Trade. An important function of major currencies is as a unit of account and medium of exchange in international trade. Unfortunately, up-to-date global figures on the currency of invoicing and payment are not available. Calculations pertaining to 1987 show the dollar in first place, at 38 percent, followed by the deutsche mark at 21 percent, the yen at 13 percent, the French franc at 11 percent, and the pound at 10 percent.

Among the largest countries, only the Governments of Japan and Germany maintain more up-to-date figures. The share of the yen invoicing in Japan’s imports rose from 2.4 percent in 1979 to 14.4 percent in 1990 and 20.9 percent in September 1993 (with a larger increase in imports from Southeast Asia). The share of the yen in Japan’s exports rose from 25 percent in 1979 to 39 percent in 1983 (again, with a concentration in Southeast Asia). It declined subsequently and then recovered (to 37 percent in 1990 and 39.9 percent in September 1993). The dollar remains the dominant invoicing currency, even in Japan’s exports.17

The currency pattern of invoicing of Germany’s exports was more stable in the 1980s, at about 82 percent for deutsche mark, 7–10 percent for dollars, and 5 percent for pounds, French francs, and Swiss francs combined. German imports, however, saw a shift from 43 percent in deutsche mark in 1980 to 53 percent in 1988, at the expense of the dollar (from 32 percent to 22 percent). The other currencies were steady at

17 Reported in Frankel (1984, p. 37), Frankel (1993, p. 80), and Tavlas and Ozeki (1992, p. 33). The original data are from Japan’s MITI Trade Bureau (“Final Figures for Exports” and “Import License Notification Statistics”) and Ministry of Finance (Annual Report).
Table 7. Currency Composition of Long-Term Debt of All Developing Countries
(In percent)

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</tr>
</thead>
<tbody>
<tr>
<td>Deutsche mark</td>
<td>8.7</td>
<td>6.5</td>
<td>7.2</td>
<td>6.6</td>
<td>7.5</td>
<td>8.7</td>
<td>8.5</td>
<td>7.5</td>
<td>6.7</td>
</tr>
<tr>
<td>French franc</td>
<td>4.2</td>
<td>5.2</td>
<td>4.8</td>
<td>4.5</td>
<td>4.7</td>
<td>5.3</td>
<td>5.2</td>
<td>4.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>2.3</td>
<td>6.2</td>
<td>11.4</td>
<td>11.4</td>
<td>10.2</td>
<td>10.3</td>
<td>11.0</td>
<td>11.1</td>
<td>11.7</td>
</tr>
<tr>
<td>Pound sterling</td>
<td>11.3</td>
<td>3.2</td>
<td>2.4</td>
<td>2.4</td>
<td>2.2</td>
<td>2.2</td>
<td>2.1</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Swiss franc</td>
<td>1.1</td>
<td>1.5</td>
<td>2.2</td>
<td>1.9</td>
<td>1.7</td>
<td>1.9</td>
<td>1.6</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>U.S. dollar</td>
<td>47.3</td>
<td>47.5</td>
<td>43.3</td>
<td>43.4</td>
<td>43.2</td>
<td>40.4</td>
<td>40.0</td>
<td>42.0</td>
<td>44.4</td>
</tr>
<tr>
<td>Multiple currency¹</td>
<td>11.7</td>
<td>10.2</td>
<td>13.2</td>
<td>13.2</td>
<td>13.5</td>
<td>14.6</td>
<td>14.7</td>
<td>15.0</td>
<td>14.8</td>
</tr>
<tr>
<td>SDRs</td>
<td>—</td>
<td>—</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>All other currencies</td>
<td>13.2</td>
<td>8.1</td>
<td>7.1</td>
<td>8.2</td>
<td>8.6</td>
<td>8.8</td>
<td>8.7</td>
<td>8.2</td>
<td>7.7</td>
</tr>
</tbody>
</table>


¹ The category “multiple currency” is excluded from the rankings described in the text.
a combined 8 percent, and the yen rose from negligible to 2.5 percent of German imports (reported by Tavlas, 1991, p. 25; the source is Deutsche Bundesbank, Annual Report).

Occasionally OPEC discusses abandoning its policy of setting the price of oil in dollars, and perhaps switching to the SDR. These discussions generally begin when the dollar has undergone a large drop in value, and end when the dollar stabilizes or reverses.

**Currency Substitution in Cash Transactions.** Figures on the use of international currencies as substitutes in local cash transactions are not available. The two leaders are certainly the dollar, for which internationally circulating cash has been estimated by the Federal Reserve at roughly 60 percent of U.S. currency outstanding, and the deutsche mark, for which international circulation has been estimated by the Bundesbank at 35-40 percent of German paper currency outstanding. Thus, there were about $240 billion and DM 66.8 billion, in cash, circulating in third countries in 1995. At the October exchange rate, the dollar's share of this market works out to 78.2 percent and the deutsche mark's to 21.8 percent, counting other entries at zero.

Wherever hyperinflation or social disorder undermines the public's faith in the local currency, the U.S. dollar is the preferred alternative. (The drug trade and other illegal activities are another source of demand, of course.) The United States profits whenever people in Argentina or Russia hold dollars that do not pay interest. Seigniorage is a growing source of effective revenue for the United States. A simple calculation—multiplying the interest rate times foreign-held dollars—suggests that the United States now derives about $12 billion a year in seigniorage from foreign holdings of U.S. currency.

**Implications for the Future**

In this section we draw out the implications of the preceding analysis for future competition among aspiring international currencies.

**Conditions for an International Currency**

Having seen how the various candidates for international currency status currently rank, we now ask what are the attributes that make a

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currency suitable for this role. Four major sorts of conditions determine whether a currency is used internationally.19

Patterns of Output and Trade. The currency of a country that has a large share in international output, trade, and finance has a natural advantage. By such measures, Japan should clearly be number two, ahead of Germany. The U.S. economy is still the world’s largest, however, in terms of output and trade. Alarmist fears notwithstanding, it is not very likely that Japan, a country with half the population and far less land area or natural resources, will surpass the United States in sheer economic size.

If the measure of being a vehicle currency is how often it is used in the invoicing and financing of international trade, then other aspects of the pattern of trade may also be relevant. The fact that much of Japan’s imports are oil and other raw materials and that much of its exports go to the Western Hemisphere, for example, helps explain why a disproportionately small share of trade is invoiced in yen as opposed to dollars. Raw materials still tend to be priced in dollars.

History. There is a strong inertial bias in favor of using whatever currency has been the vehicle currency in the past. An individual (exporter, importer, borrower, lender, or currency trader) is more likely to use a given currency in his or her transactions if everyone else is doing so. For this reason, the world’s choice of international currency is characterized by multiple stable equilibria (Krugman, 1984). The pound remained an important international currency even after the United Kingdom lost its position as an economic superpower early in the century. In the present context, the inertial bias favors the continued central role of the dollar.

The Country’s Financial Markets. Capital and money markets must be not only open and free of controls but also deep and well developed. The large financial marketplaces of New York and London clearly benefit the dollar and pound relative to the deutsche mark and the yen. The controls on international financial transactions that Germany and Japan only began to dismantle in the 1970s (1974 and 1979, respectively) and the domestic regulations that they continued to retain made their currencies less attractive candidates for international

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19 For further discussion along these lines see Bergsten (1975), Tavlas and Ozeki (1991), Frankel (1992 and 1995), and Hale (1995a).
use.\textsuperscript{20} This is the basis for our view that capital controls were one component of the Triffin dilemma and for the argument for the SDR as a reserve currency. It is true that Japanese financial markets came a long way in the 1980s.\textsuperscript{21} But Tokyo still lags behind New York and London as a financial center, while Singapore and Hong Kong have been gaining.

It has also been argued that a strong central bank and a large financial sector to counterbalance the political influence of the trade sector are important. The point is to be able to resist political pressure in favor of depreciating the currency to help sell goods (see, for example, Hale, 1995a).

\textit{Confidence in the Value of the Currency.} Even if a key currency were used only as a unit of account, a necessary qualification would be that its value not fluctuate erratically. As it is, key currencies are also used as a form in which to hold assets (firms hold working balances of the currencies in which they invoice, investors hold bonds issued internationally, and central banks hold currency reserves). Confidence that the currency will be stable and particularly that its value will not be inflated away in the future is critical. The monetary authorities in Japan, Germany, and Switzerland established a better track record of low inflation in the 1970s than did the United States, which strengthened their bids for international currency status.

Given the good U.S. inflation performance over the last ten years, this is no longer the concern it was formerly. A more important negative for the dollar is the fact that the United States is now a debtor country. Indeed, 1994 and 1995 were the first two years in which the country actually paid out more in interest, dividends, and repatriated profits to foreigners on their past U.S. investments than it received on its own past investments abroad. Even if the Federal Reserve never succumbs to the temptation to inflate away the U.S. debt, the continuing U.S. current account deficit is always a possible

\textsuperscript{20} Not that they regretted it. Both Governments were reluctant to see their currencies gain reserve status for fear that high and fluctuating demand for them would be destabilizing, particularly for their exporters.

\textsuperscript{21} Many of the steps that the U.S. side urged on the Japanese in the 1984 yen/dollar negotiations were designed to encourage the development of markets in Tokyo in hedging instruments, bankers' acceptances, commercial paper, short-term government securities, and offshore banking. The explicit goal was precisely to facilitate the internationalization of the yen. Although such steps have been taken in Japan over the last ten years, these markets remain as yet relatively less developed. (The U.S. campaign of ten years ago is ironic, in light of current concerns about the declining international role of the dollar.)
source of downward pressure on the dollar. Such fears make dollars less attractive.

**Prognosis for the Dollar, Deutsche Mark, Yen, and SDR**

In light of these desiderata for an international currency, what is the prognosis for the aspirants to the top slot? It is unlikely that some other currency will supplant the dollar as the world’s premier currency by, say, the year 2020. The dollar will still be the world’s favorite currency for holding reserves, pegging minor currencies, invoicing imports and exports, and denominating bonds and lending. There is no plausible alternative for the number one position.

This is not to suggest that the dollar is ideally suited for this role. It has characteristics that mar its appeal: most important, the United States is a debtor country with a large current account deficit. But an international currency is one that people use because everyone else is using it. Three of the four determinants of reserve currency status—economic size, developed financial markets, and historical inertia—support the dollar. The fourth determinant could in principle disqualify the dollar if the Federal Reserve produced a high-inflation strategy, but this is unlikely to happen.

The SDR lacks a natural constituency. Although the deutsche mark and the yen have natural constituencies, they have three drawbacks relative to the dollar that have already been noted: their financial markets are not as liberalized or as well developed as those of the United States, their natural constituency is not as large, and a challenger is always at an inertial disadvantage relative to an incumbent.

Over the period 1970–92, U.S. GDP fell from 24 percent of gross world product, evaluated at purchasing-power-parity rates, to 20 percent. It is possible that one can explain much of the downward trend in the dollar’s share of world reserves over the last twenty-five years, and the upward trends in the yen and deutsche mark shares, by the falling share of U.S. GDP in the world economy and the rising share of the Japanese and German GDPs. A careful econometric study of the determinants of central bank reserve holdings is beyond the scope of this paper. But a crude analysis of the role of relative growth rates may be worthwhile.

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22 In this U.S. presidential election year, one cannot help but think of the analogy with the Republican primaries. Voters complain about the existing candidates on the grounds that they all have characteristics that mar their appeal. But they have to vote for one, and there is a tendency to prefer a candidate with a serious chance of winning—that is, one for whom others are prepared to vote as well.
We have estimated econometrically that for every 1 percentage point of economic growth increase that one of the Group of Three major countries experiences as a share of gross world product (measured at purchasing-power-parity rates), its currency experiences a 1.33 percentage point increase in its share of central bank reserve holdings.\textsuperscript{23} In a statistical sense, one can explain a decline of the dollar share over the period 1970–92 of 5 percentage points by the shift in GDPs.\textsuperscript{24} One can also explain increases in the deutsche mark and yen shares of 1 percentage point and 5 percentage points, respectively.

The tests described here are crude.\textsuperscript{25} A careful analysis of a well-specified equation would require access to data on foreign exchange holdings broken down by central bank, rather than aggregated. Most central banks report their holdings to the International Monetary Fund, but under conditions of secrecy. The responsible department in the Fund does not analyze the data itself, nor, normally, will it even let researchers in other parts of the Fund do so. (Shockingly, there is no way for a reader of the aggregated tables that are reported each year in the IMF \textit{Annual Report} even to know whether the currency composition has been drastically affected in a particular year by a change in the list of countries that have dutifully reported their holdings.\textsuperscript{26})

The only exception, to our knowledge, is the study by Dooley, Lizondo, and Mathieson (1989), who had blind access to the data (that is, access without identification of the individual central banks). They estimated the responsiveness of country central bank holdings of dollars, deutsche mark, yen, pounds, and French francs to the trade undertaken by the country in question with each of the five large countries. One could in principle combine these estimates with projec-

\textsuperscript{23} For every percentage point increase that the country experiences as a share of gross world product measured at actual exchange rates, its currency experiences an estimated 0.55 percentage point increase in share.

\textsuperscript{24} One can explain a decline of 3 percentage points in the dollar share by the shift in GDPs evaluated at actual exchange rates, the U.S. share having gone from 32 percent to 26 percent.

\textsuperscript{25} Tests that added the lagged rate of dollar depreciation did not produce a significant coefficient. A thorough analysis would require access to reserve holdings by individual central banks as in Heller and Khan (1978), or Dooley, Lizondo, and Mathieson (1989).

\textsuperscript{26} Furthermore, the reserve holdings of Taiwan Province of China—the second largest in the world—are not included in the Fund’s tables. This problem is much more easily addressed than the others, however, because Taiwan Province of China does not guard the confidentiality of its reserves composition as jealously as other economies.
tions of rates of growth in income and trade to make forecasts of reserve demand for the five currencies. However, the equation estimated by Dooley, Lizondo, and Mathieson includes also among its explanatory variables dummy variables indicating choice of peg (or other exchange rate regime) and the proportion of interest payments on external debt in the five currencies. These decisions regarding currency pegging and debt denomination are ones that we would wish to regard as determined simultaneously with the reserve-holding decision. If rapid growth of Japan’s trade or an increase in confidence in the yen, for example, is making the yen a more attractive international currency than the dollar, this would show up in pegging and debt policies as well as in reserve policies. Thus we are unable to use their equation for forecasting.27

What does our crude regression equation predict for the future? (The following calculation should be regarded as merely illustrative.) The United States is estimated to have a permanently higher intercept term than the deutsche mark or the yen. This difference is presumably attributable to the openness and development of its financial markets and to inertial bias. At current exchange rates the aggregate GDP of 12 countries of the European Union (EU) is approximately equal to that of the United States (which is 26.1 percent of gross world product). At purchasing-power-parity exchange rates, the GDP of the EU is slightly smaller than that of the United States (which has a share of 22.5). Japan’s share is smaller, but it has been gaining on the United States rapidly, when evaluated at current exchange rates. To take an extremely pessimistic scenario from the viewpoint of the dollar, imagine that by the start of the next century, the Japanese economy is as large as the United States, and the deutsche mark has become the common currency throughout a Western Europe of the same size. If the aggregate size of the three regions together, evaluated at purchasing power parity, remains the same (one half of gross world product in 1992), then each becomes one sixth of the world economy. Our equation predicts that the dollar’s share of world reserves would in that case fall only to 62 percent (from 63 percent currently), the deutsche mark’s share would rise to 28 percent (from 16 percent), and the yen’s share to 17 percent (from 9 percent). This would indeed be a continuation of the trend of the 1970s and 1980s. Yet the dollar would remain number one by a large margin.

27 The authors recommend that an updated study be undertaken within the Fund, involving, if necessary, Research Department staff (or even visiting consultants), in cooperation with the staff of the department responsible for the reserve numbers.
This calculation rules out a priori a sudden "tipping" that would render the old constant terms obsolete. But why should the world equilibrium converge on a nondollar currency? This would only happen in the event of a drastic change in some of the conditions enumerated above, such as either Japan or a deutsche mark-dominated area actually surpassing the United States in economic size, which is unlikely. (The possibility of a single currency coming into use throughout Europe, which would indeed pose a challenge to the supremacy of the dollar if it was to happen, is discussed below.)

Why is the dollar the world's lingua franca, while the SDR is not? There is an analogy with the international use of the English language. Nobody would claim that English is particularly well suited to be the world's lingua franca by virtue of its intrinsic beauty, simplicity, or utility. Yet it is the language in which citizens of different countries most often converse and do business, and increasingly so. One chooses to use a lingua franca, as one chooses a currency, in the belief that it is the one that others are most likely to use.

If the dollar is the world monetary system's version of the English language, the SDR is the system's version of Esperanto. The SDR was created by the IMF to be an ideal international currency. Its definition makes it intrinsically more useful than the dollar, just as Esperanto is intrinsically superior to English. The reason that the SDR is even less widely used today than it was ten years ago is that, like Esperanto, it lacks a natural base of constituents who would use it even if it was not in international use.28

Implications of the Evolution of the International Monetary System

The crucial characteristics of the international monetary system in the immediate future will be three: the movement of additional countries toward flexible exchange rates, continued high capital mobility, and the gradual diversification of reserve portfolios. Over the inter-

28 Some have anticipated our analogy, describing the ECU (or euro) as "Esperanto money." But the ECU has at least attained a respectable amount of use in private financial transactions (or had, up to the 1992 crisis in the European exchange rate mechanism). The SDR has not. If the EU achieves EMU, the new currency would acquire a larger natural base of constituents than the United States, and would constitute a major threat to the dollar's standing as the pre-eminent international currency.
mediate run, a European monetary union may be established. Peering very far into the future, one can envisage the possibility of a world of three currency blocs, centered on the United States, Western Europe, and Japan, or even a single world currency. What would be the role of the SDR in these scenarios?

Immediate Future

As late as 1984 fewer than one fourth of IMF member countries had adopted floating rates. But by the end of 1994 the proportion operating systems of managed and independent floating rates had risen to more than 50 percent. There is good reason to think that the trend will continue. The existence of large, highly liquid international financial markets increases the difficulty of operating currency pegs. While exceptional circumstances, such as a recent history of very high inflation (as in Argentina), political threat to confidence (as in Hong Kong), or close links with foreign governments (CFA franc zone), may induce a few developing countries to peg their currencies, the prevalent view, especially in the wake of the Mexican crisis, is that few developing countries are well advised to peg.

We noted above that, following the breakdown of Bretton Woods, there was some decline in the demand for reserves by large, industrial countries, but little change, and even an increase, in the reserve demands of smaller developing countries. We attributed this contrast to the reluctance of small, highly specialized commodity exporters with underdeveloped financial markets to allow their currencies to float freely, as suggested by the literature on the choice of exchange rate regime. As developing countries continue to grow, their exports diversify, and their financial markets deepen, their exchange rate and financial arrangements will increasingly resemble those of the industrial economies, and so too will their demands for international reserves. This points to some decline in the global demand for reserves. As we saw above, there is some empirical support for this view, although it suggests that the decline in reserve demand will be modest. This suggests no pressing role for the SDR to augment the supply of global liquidity.

Another common rationale for the SDR is to provide a unit of account that fluctuates less against each component currency than that currency fluctuates against the other component currencies.

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29 This conventional wisdom is argued and reviewed by Obstfeld and Rogoff (1995).
30 We reserve discussion of another possible exception to this generalization, European monetary union, to the next subsection.
(see International Monetary Fund, 1987, p. 24). This enables national governments, international institutions, and private parties to maintain accounts and denominate contracts in a more stable unit than would otherwise be available. As more currencies begin to fluctuate, this rationale would appear to acquire additional force.

But this argument was formulated before the development of today's highly liquid, low-cost foreign exchange markets. If governments and private agents find it attractive to hold assets in the form of a composite basket of 5 currencies, they can do so without the IMF's help by undertaking foreign exchange transactions that replicate the SDR basket. With spreads on foreign exchange markets as low as five basis points, the relevant transactions can be undertaken at minimal cost. This would not obviate the need for the Fund to define, calculate, and publish the value of the SDR, since services such as these would create the focal point encouraging basket peggers, for whom the attractions of a particular basket peg are likely to increase with the number of countries that also peg to that basket, to peg to the SDR rather than to another currency composite. But it would not create an immediate rationale for additional SDR allocations.

Another direction in which the international system will evolve is toward still higher capital mobility. As explained above, we see this as blunting the Triffin dilemma and weakening associated arguments for an SDR allocation. Capital mobility allows all governments and central banks to augment their reserves simultaneously by borrowing on private foreign markets. It removes the danger that the foreign monetary liabilities of the reserve currency countries will grow at an unsustainably faster rate than their domestic economies, calling into question their ability to convert their liabilities into other assets or commodities at prevailing prices by allowing—indeed encouraging—the emergence of alternative national sources of reserve supply.

Along with higher capital mobility will come greater access to and reliance on foreign bond and equity finance for developing economies. The role of the SDR, in the view of its founders, was to "permit the Fund to assure an appropriate level of international reserves" (International Monetary Fund, Annual Report, 1968, p. 16). Is this role obviated by this ability to borrow? While some have argued that ability to borrow diminishes the demand for reserves because it makes their supply more elastic, the volatility of the supply of commercial capital may actually increase the need for official reserves to smooth fluctuations in the external accounts. As illustrated by the Mexican crisis of 1994–95, countries in need may find themselves un-
able to obtain borrowed reserves at any price. To prevent a meltdown of the Mexican financial system, the IMF provided the government nearly $20 billion of credit as part of a $50 billion assistance program. The largest single transaction in the history of the IMF's SDR Department was the sale of SDR 3.5 billion by Mexico under its stand-by purchase in February 1995.

The idea that an SDR allocation could provide the resources needed to head off national financial crises with global repercussions goes back at least to the Group of Ten (1985). But the growth of international financial markets renders existing Fund resources increasingly inadequate. Rather than being allocated to member countries in proportion to their quotas, the SDR issue could be allocated to the Fund itself to underwrite loans through a special financial crisis facility targeted to where they are most needed. (For further discussion of this idea, see the paper in this volume by Marcello de Cecco and Francesco Giavazzi, chap. 7.)

But there are also other ways of financing international lender of last resort intervention. The relevant finance can be provided by national governments, as in U.S. and European loans to Mexico in 1995. Still, it can be difficult, as that experience illustrates, to provide the needed resources with the speed required by the operation of modern financial markets, for political as much as economic reasons. Alternatively, resources can be mobilized by increasing IMF quotas. Members would pay in SDRs and reserve currencies in the amount of their quota increases, thereby providing the Fund the requisite resources. But there would be political resistance to the substantial quota increases that would be necessary to enable countries to draw automatically on the Fund in the amounts required to cope with modern financial crises. Mexico, for example, was allowed to draw five times its quota, in an exception to IMF rules.

Another option is to increase the General Arrangements to Borrow (GAB), under which the governments and central banks of the Group of Ten countries and Saudi Arabia provide lines of credit that allow the Fund to borrow up to $28 billion at market interest rates if its resources are insufficient to deal with an emergency. At the Halifax summit the leaders of the Group of Seven countries agreed that the GAB should be doubled through a combination of increased contributions from existing members and the participation of new countries. But if the GAB is doubled by leaving the Group of Ten and its $28 billion of credit lines intact and creating a parallel grouping comprising the Group of Ten plus a number of smaller countries responsible for an additional $28 billion of credits (a proposal that finds favor among the smaller Group of Ten members that fear that simple expansion would erode their in-
fluence), this two-tier arrangement might not be appealing to potential new members and might not attract their participation. And while GAB members can receive money “to forestall or cope with impairment of the international monetary system,” the terms under which GAB credits can be extended to nonmembers are more restrictive. These require an “exceptional situation of a character or aggregate size that could threaten the stability of the international monetary system.” Some would say that this would have been difficult to claim of the Mexican crisis, for example. Would Mexico therefore have been eligible to draw from the GAB?

Thus, there is a second-best (really, a third- or fourth-best) case for an SDR allocation—with the SDRs being allocated to the Fund itself rather than to member countries—to finance a facility for dealing with Mexico-style crises, if and only if it proves impossible to expand Fund quotas and the GAB and to liberalize the provisions for drawing on either of them.

The final direction in which the international monetary system will evolve is toward some diversification of reserve portfolios. As argued above, we believe that the dollar will remain the dominant reserve currency for the foreseeable future. But there is some evidence that Asian countries, which hold an increasing share of global reserves, have been substituting yen for dollars in their reserves because their debts are increasingly denominated in yen. Japan, Taiwan Province of China, China, Singapore, and Hong Kong are five of the six largest holders of international reserves, reflecting their rapid economic growth and the magnitude of the capital inflows they have received. It is sometimes inferred that, if these trends continue, the yen could supplant the dollar as a reserve currency (The Economist, 1995). But this argument overlooks two facts. First, Japan itself cannot hold yen as reserves. Second, there is reason to think that Asian economic growth in the future will not outstrip growth in other parts of the world to the same extent that it has in the past.

All this suggests that reserve portfolios may become slightly more balanced among currencies in the short run. None of it provides an obvious rationale for an SDR allocation to supplant national currencies in international reserves.

**Intermediate Future**

In this subsection we assume, for the sake of argument, that EMU, encompassing some but not necessarily all members of the EU, will
come into existence in the intermediate run. That event, assuming it occurs, will have important effects on supplies and demands for international reserves. Because several of these work in opposite directions, however, they are unlikely to give rise to a significant excess demand for reserves and to create an argument for an SDR allocation.

Because EMU members will no longer have to stabilize their exchange rates vis-à-vis one another, their demands for reserves will decline. Gros and Thygesen (1992) put the decline at $100 billion, the European Commission (1990), at $200 billion.

But a further short-run impact of EMU is likely to be some increase in the demand for dollars as reserves and the additional ability of the United States to provide them. The introduction of the euro would reduce the proportion of reserves denominated in European currencies compared with the proportion held in EU currencies before the euro is introduced, because European central banks' holdings of one another's national currencies will be transformed into domestic currency claims. Unlike the Bundesbank, which could hold francs, and the Bank of France, which could hold deutsche mark, the European central bank would only be able to hold its reserves in the form of non-European currencies like the dollar. The dollar will account for an even larger share of global reserves. If a larger share of world reserves is denominated in dollars, network-externality effects may encourage countries to accumulate even more.

With time, the creation of a single European currency would lead to a concentration of foreign exchange transactions in that asset compared with the volume of transactions that take place currently in, inter alia, the French franc and the deutsche mark. With both Frenchmen and Germans transacting in euros, bid-ask spreads in the single currency would decline, since spreads are a decreasing function of the volume of transactions. In turn, this will attract other currency traders to the euro market. Prominent among them will be those holding the currencies of countries in Southern and Eastern Europe that are not among the founding members of the monetary union but wish to join subsequently; their currencies are likely to shadow the euro, encouraging foreign exchange transactions to pass through it rather than through

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31 We stress that here we are exclusively analyzing scenarios, since the two coauthors disagree, to an extent, about the likelihood of this outcome.

32 The European central bank will of course be able to hold reserves in the form of currencies of countries that do not participate in EMU (the United Kingdom, perhaps), but these are likely to be of relatively minor importance.

33 Black (1991) among others has documented the strong inverse relationship that exists between the volume of trading and the bid-ask spread.
the dollar. And as the euro becomes more important as a vehicle currency, it is likely to gain use as an intervention currency and to become an increasingly popular form in which other countries hold their reserves. Ultimately, the creation of the euro would mean a new and increasingly powerful rival for the dollar as the international monetary system's leading reserve currency.

One can imagine two ways in which this transition might take place. The first one gives rise to an argument for an SDR allocation to avert an incipient reserve shortage, but we find it far-fetched.

Assume that central banks around the world decide all at once to switch their holdings from dollars to euros. This could imply considerable exchange rate instability between the major currencies, strains on the international monetary relations of smaller countries, and a rise in the demand for international reserves. The instability of a major reserve currency like the dollar could spook its major institutional holders, who might then dump their holdings, reducing the effective supply of international reserves. The consequent scramble for euros and yen, and appreciation of those currencies relative to the dollar, could place significant deflationary pressure on the European and Japanese economies. In this scenario there might be a case for an SDR allocation to avert the incipient reserve shortage and a substitution account to absorb redundant dollars without destabilizing foreign exchange markets, as suggested by Kenen (1995).

But this sudden switch from dollars to euros is unlikely. Central banks will be aware that they face a collective action problem; if they all scramble to sell dollars, they will depress the value of the claim they are attempting to sell. In the same way that they hesitated to liquidate their gold reserves at once in the 1970s, they are likely to adopt a similar attitude toward the management of their excess dollars, and to rebalance their portfolios by gradually acquiring other currencies as their need for reserves continues to grow. Even Kenen agrees that the disaster scenario that motivates his call for the creation of a substitution account is a low probability.

**Distant Future**

Wyplosz (1995) envisages the emergence of a world of three currency blocs, organized around the dollar, the yen, and the European currency, respectively, sometime in the next century. The members of these blocs will be inclined to make their own monetary arrangements and organize them around a dominant national currency or a regional reserve unit like the euro (see Rhomberg, 1991). Imagine, for example, that Canada, the United States, and Mexico form a monetary union or a
pegged rate system in which the members agree to extend unlimited intervention on behalf of one another's currencies. The dollar or an asset analogous to the euro, not the SDR, would serve as this bloc's common unit of account. Intervention, if the separate national currencies are maintained, would take place through purchases and sales of U.S. dollars for their Canadian and Mexican counterparts, leaving little obvious role for the SDR.

Because the three blocs will be larger and collectively less open to the rest of the world than today's nation states, they will be more inclined to float their common currencies against one another. Wyplosz predicts that the three blocs will tend to follow policies of benign neglect with regard to interbloc exchange rate fluctuations. Hence, there will be less need for international reserves than today if this three-bloc world comes about.

Cooper (1990) and Bergsten (1993), peering far into the future, suggest that there is an efficiency argument for the development of a single world currency to complement an increasingly integrated global trading system. In a world of a single currency, there is no need for international reserves to smooth balance of payments disturbances, any more than there is a need for Federal Reserve districts to hold international reserves to deal with disturbances to regional balances of payments. Some, following Gurley and Shaw, would argue that successful management of any financial system requires an "outside asset," and that in a world of a single international currency the SDR could play this part. The IMF would assume the role of world central bank and vary the volume of SDRs it supplied to commercial banks and other financial intermediaries that used the instrument as backing for their own liabilities, thereby controlling the money supply. The alternative, anti-Gurley and Shaw view, is that the entity vested with responsibility for controlling the volume of currency could simply hold, and operate through markets in, the debt instruments of national governments and other issuers.

Could greater reliance on SDRs in the intermediate run encourage the emergence of such a currency, along the lines of the competing currency arguments of some architects of EMU? If governments and the Fund concentrated a greater share of their transactions in the form of SDRs, this argument goes, private agents might find it convenient to do the same, and the world might gravitate, without direction by national governments, toward a situation where a single world currency effectively prevailed.

We are skeptical of the relevance of this argument. Very large quantities of SDR transactions would have to be undertaken before the network externalities they threw off dominated those associated with the dollar. The yen and the deutsche mark, and even the French franc, Swiss franc, and pound sterling, remain far ahead of the SDR in terms of nat-
ural constituency, as we showed above. And if denominated assets in a composite basket is attractive to private agents, they themselves can do so by undertaking low-cost foreign exchange market transactions. It is not clear to us that additional SDR allocations will add significantly to the momentum for the development of a single world currency.

Conclusion

In attempting to forecast the role of the SDR in the future of the international monetary system, we began by putting to rest a number of misunderstandings about the supply of and demand for reserves. The rise of international capital mobility and exchange rate flexibility does not remove the need for international reserves. If capital mobility allows countries to borrow reserves and exchange rate flexibility provides an instrument of adjustment that can supplement reserve financing of balance of payments deficits, there could be some modest decline in the demand for reserves as capital controls are removed and additional countries gravitate toward exchange rate flexibility. But insofar as international capital markets are themselves the source of shocks, greater exposure to these markets implies a greater demand for reserves.

In any case, contrary to the view that not all countries can obtain international reserves simultaneously—an argument that arose in the control-ridden 1950s and 1960s—international capital mobility goes a long way toward removing this Triffin dilemma. All central banks and governments can simultaneously obtain additional reserves on private markets. To the extent that any single country or group of countries begins to incur foreign monetary liabilities that grow alarmingly large relative to the size of its economy, new sources of reserve supply can spring up, in a world of convertible currencies.

Thus, neither the total supply nor the total demand for reserves is likely to change dramatically as the world moves further in the direction of international capital mobility and exchange rate flexibility. There is no compelling argument for an SDR allocation to avert a pending global liquidity shortage or to remove an intrinsic instability in the reserve supply process, as was the case in the control-ridden world of the 1960s. There is a consistent argument for an SDR allocation to provide the resources needed to manage national financial crises with international implications—crises of a sort that may grow more prevalent with the globalization of markets—but there are more direct and desirable means of underwriting the relevant facility. European monetary unification, if and when it occurs, will have major implications for the
demand for and supply of reserves, but several of these work in offsetting directions; there is little reason to think that they will create a significant excess demand for international reserves or destabilize the reserve supply process. In a future world with a single world currency or three relatively self-contained currency blocs floating against one another, the demand for international reserves would decline or disappear. While there would be a role for the SDR or an instrument like it if the IMF is the world central bank that issues the single world currency, any such scenario is so remote as to have no significant implications for short- or medium-term policy planning.

Our conclusion, for better or for worse, is that the future of the international monetary system is unlikely to entail a significantly expanded role for the SDR.

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What Role for the SDR in a Market-Led International Monetary System?
Tommaso Padoa-Schioppa and Fabrizio Saccomanni

Eichengreen and Frankel have provided us with a comprehensive survey of the historical origins, present role, and future prospects of the SDR. In spite of the impressive range of arguments, data, and historical anecdotes the paper is replete with, the conclusion they come up with is rather simple and, alas, somewhat dismaying. The SDR, they argue, is by now, at best, a relic of the past; at worst, an honorable failure. Be that as it may, its future is doomed.

Their argument hinges on three building blocks. In the first, they discuss the implications for the demand and supply of reserves stemming from the present high degree of capital mobility and the predominance

1 The views expressed here are not necessarily those of Banca d'Italia. The authors would like to thank Curzio Giannini for helpful comments on an earlier draft of this paper although they are responsible for any inaccuracy.
of floating exchange rates. They correctly argue, challenging what has long been common wisdom, that high capital mobility and exchange rate flexibility need not entail, and as a matter of fact have not entailed hitherto, a dramatically lower demand for reserves. They then move on to show that the supply of reserves, once constrained by the U.S. balance of payments, can now be increased by exchanging liabilities denominated in domestic currency for assets denominated in foreign currency. If the former are not netted out in the computation of the country’s reserves, and the authors argue that they should not be, at least to the extent that they are held by foreign central banks, then the supply of additional reserves ceases to be a zero-sum game. If the total supply of reserves can be adjusted in this way at virtually no cost and with virtually no upper bound, creating SDRs with the sole purpose of meeting a growing demand becomes a meaningless exercise.

The second building block involves a comparison of the SDR with its rivals in the role of international currency and unit of account. Here, relying on existing data on the currency denomination of official reserves and international financial and trade transactions, as well as on the distribution by currency of exchange rate pegs, they conclude that the dollar is still by far the dominant international currency, and it is likely to remain so in the foreseeable future. To rationalize the finding on which their prediction is founded, they rely on what is essentially a “multiple equilibria cum path dependence” argument. The main factor in the choice of a dominant international currency, so the story goes, is the weight of the issuing country in the world economy and the world’s capital markets. Although other plausible, and perhaps even more attractive, candidates may be at hand (there are, that is, “multiple equilibria”), markets will tend to converge toward the currency of the dominant economy, which acts as a catalyst, or a “focal point.” Once that currency has been “chosen,” network externalities will make it difficult for new potential candidates to challenge its primacy, even if the dominant country’s share in the world economy may be rapidly eroding (this is the “path dependence” aspect of the story). In this vein, as a candidate for the role of international currency, the SDR is the weakest of the lot, since it has no “natural constituency” to back it up.

The observation that the choice of international currency is mainly driven by the size of the dominant economy is historically correct. This has certainly much to do with network externalities, as pointed out by the authors. However, transaction costs may go a long way toward explaining why agents have an incentive to stick to a given currency even when the opportunity cost, actual or expected, of doing so is relatively high. The distinction may have practical implications in the present
context. As it happens, contrary to most dominant currencies of the past, the dollar seems to be particularly unsuited for international use because of the relative closeness of the issuing country's economy, which reduces the incentive for the latter to pursue economic policies giving due emphasis to the likely repercussions on the external value of the currency. In the past, the net creditor position of the United States, coupled with the lack of plausible rivals for the role of international currency, reduced the practical import of the problem. Today, after the United States has become the world's greatest net debtor, the risk of a conflict between domestic and external policy goals has increased, so that confidence in the external value of the dollar can no longer be taken for granted. If transaction costs were still high, or if the choice of an international currency happened to be predicated only on network externalities, the international demand for dollar-denominated assets would be affected only marginally. But one of the most important features of present-day international financial markets is the negligibility of transaction costs. Hence, the demand for dollars as a reserve currency might indeed be subject to major reversals should policy conflicts emerge and persist.

The third building block is a conceptual exercise, which consists of asking whether the foreseeable evolution of the international monetary system up to fifty years hence will tend to make the SDR more appealing than it presently looks. The authors' answer is a resounding no. At present, there seems to be no pressing need for augmenting the supply of liquidity. In the intermediate future, if EMU is established, network externalities will, if anything, tend to strengthen the position of the dollar, as a larger share of world reserves will be denominated in that currency once intra-Europe exchange rate fluctuations disappear. In the distant future, be that one in which there are three currency blocs or one featuring a single world currency, again they see no reason to expect a greater demand for SDRs. In fact, if the former applies, the predominance of intrabloc trade will, they conjecture, tend to favor a policy of benign neglect with respect to the interbloc exchange rates, and hence a lower need for reserves. If the latter applies, the need for foreign exchange reserves will disappear altogether.

On the whole, we agree with most of what Eichengreen and Frankel say in their paper. In particular, there can be little doubt that the fear of a global reserve shortage, from which the SDR originated, would probably be unjustified in the present context of liberalized capital flows, flexible exchange rates, and highly sophisticated global financial markets. We also subscribe to the view that the choice of a monetary unit is subject to significant inertia, and that as a consequence the dollar—
despite the growing external debtor position of the United States—is likely still long to remain the international currency. We are less sure than the authors about the impact of EMU on the demand for dollar reserves; it may well be that the European central bank, once the reserves of the member central banks are pooled, finds that it has too many dollars and too few yen for the purpose of managing the euro in a tripolar monetary system.

In sum, it is fair to say that the conclusions reached by the authors are broadly in line with the findings of the various reviews of the outlook for the international monetary system conducted during the celebration of the fiftieth anniversary of Bretton Woods. Even the conference organized by the Banca d'Italia to honor the memory of Rinaldo Ossola, one of the fathers of the SDR, reached similarly pessimistic conclusions about its future (Kenen, Papadia, and Saccomanni, 1994).

Yet we cannot help but feel somewhat uneasy about the logic of the exercise from which the authors' conclusion is drawn, and for two reasons. First, when one deals with money, be it domestic or international, considerations of public good cannot be disregarded. That is, the adoption of, as well as continuing reliance on, a particular currency is not simply the outcome of a market process. There is much that monetary authorities can, and in our view should, do to shape incentives, to foster increasing use of a given currency, and to sustain confidence in it. Thus, even though a careful assessment of the market's "revealed preferences" concerning money is, as in any other field, of the utmost importance, this type of analysis cannot be held as conclusive until the "normative," or prescriptive, dimension is brought in. To achieve this aim in the case at hand, one should first of all recognize that, even if the SDR may be seen as having addressed a false problem, it nevertheless remains a remarkable achievement in the quest for a multilaterally managed international monetary system. One would then want to ask whether an increased reliance on the SDR might be desirable, perhaps for a purpose other than that originally envisaged. If the answer to this question was yes, one should then proceed to ask whether performing such a function would require any change in the present definition of the SDR, or in the procedures through which it is issued and managed.

Second, the SDR is but an aspect of the system of governance of the world economy. International markets do not operate in a legal and institutional vacuum. As the world economy evolves, financial markets must be adjusted and adapted. Can we really evaluate the SDR's prospects without addressing more complex issues, such as, for example, that concerning whether and how the overall institutional frame-
work should be modified to respond to the emergence of global financial markets? Do we need to develop an international central banking function? How is that function going to be financed? Which existing institution appears to be more suitable for the job? These and other relevant questions relating to the institutional features of the present and foreseeable international environment are simply not asked, let alone answered, in the paper as it stands. While the failure to address issues like these, per se, detracts nothing from the validity and interest of Eichengreen and Frankel’s analysis, it inevitably weakens the appeal of their suggestions concerning the future.

Therefore, if one was to spell out in greater detail the institutional framework in which the future evolution of the SDR is likely to take place, what features would stand out? In a paper we wrote for one of the many conferences celebrating the fiftieth anniversary of Bretton Woods (Padoa-Schioppa and Saccomanni, 1994), we expressed the view that, as a result of the globalization of finance, out of the ashes of the Bretton Woods system there emerged a market-led international monetary system. This new arrangement deserves in our view to be called a system because it has developed all the main ingredients of an international monetary system and its attendant rules of behavior:

- **An exchange rate regime:** freely floating exchange rates accompanied by occasional official management through coordinated interventions by the Group of Three, Seven, or Ten, with permission to peg rates at a regional level, but with severe market penalties for “unrealistic” exchange rates;

- **A mechanism for liquidity creation:** unlimited and unconditional liquidity supplied by the market to fully creditworthy countries, with limited and conditional liquidity supplied to less creditworthy countries by official channels (IMF, national governments, national central banks);

- **An exchange and trade system:** complete freedom for the movement of goods, services, and capital, with severe market penalties imposed for retention or reintroduction of restrictions;

- **Rules of the game for adjustment of imbalances:** strong emphasis on stability-oriented domestic macroeconomic policies, with severe market penalties for excessive budget deficits, large public debt, fiscally unbalanced policy mixes (that is, expansionary fiscal policy plus restrictive monetary policy).

We recognize that the market-led international monetary system is inferior to the Bretton Woods system in its institutional framework,
since national monetary authorities, even in major countries, have no jurisdiction over global market developments and the International Monetary Fund has seen its powers eroded by the move to generalized floating and to globalized financial markets. However, our paper argues that, in view of the paramount importance market participants attach to the fight against inflation, the maintenance of orderly market conditions, and the protection against systemic risk, the institutional setup of the market-led international monetary system is likely to evolve in the future in the direction of arrangements for the performance of central banking functions on an international scale. We identify these functions in the traditional triad comprising monetary management (that is, the conduct of monetary and exchange rate policies), payments systems oversight, and prudential supervision. We venture to say that the development of these functions of international central banking is more likely to take place in the informal forums of central bank cooperation than in an institution like the IMF, which is managed by the governments of its members. The aggregating nucleus of this evolutionary process could be the Committee of Group of Ten central banks (and their various emanations) currently meeting under the friendly roof of the Bank for International Settlements. This evolution would require new forms of cooperation between such new central banking institutions and the IMF—an issue that is addressed below.

Is there a role for the SDR in such a market-led international monetary system? Obviously this would be closely linked to the role the IMF itself would be assigned in the system. No doubt the IMF would continue to perform the crucial function of multilateral surveillance of the process of adjustment of domestic and external imbalances in member countries as well as of the process of transition to a market system in the former centrally planned economies. What is involved in this function is a broad spectrum of policies that the IMF should monitor to ensure that they are mutually consistent and conducive to macroeconomic stability. In the performance of these functions, the IMF would continue to rely on the provision of conditional liquidity as its key instrument in dealing with countries for which access to market financing is either not available or too expensive and which now constitute the large majority of its 181 members.

The original question regarding the SDR then becomes what role it could have in conditional liquidity operations by the IMF. We see basically only two options, which are not mutually exclusive. A first option is to move in the direction, indicated by Jacques Polak years ago (Polak, 1979), of an SDR-based IMF, an idea that he has further elaborated and refined in his paper for this seminar (chap. 7 in this volume). We have nothing to add to his simple and elegant presentation, except to under-
line that his proposal implies a significant role for markets in providing liquidity to the SDR.2

The second option—consistent with the nature of the market-led international monetary system—implies that the IMF would raise its resources from the market3 using the SDR as the denominator of its liabilities. The SDR would retain its basket nature, to stress its supranational character, but the composition of the basket might have to be redefined to meet the demands of market participants.

Under this approach the IMF would no longer use the SDR in the creation of liquidity but in the recycling of financial resources from the market to its members. It would have the advantage of freeing the IMF from the political difficulties of obtaining resources from official channels, which are already evident in either the quota review process or the allocation of SDRs. Fully marketable IMF bonds denominated in SDRs would be easily absorbed by institutional investors in their portfolios. Central banks would also be more willing to hold such bonds in their reserves than the traditional SDRs because of their superior risk-return-liquidity features. The IMF would also increase its operational flexibility as it would be able to muster quickly the resources needed to cope with crisis situations of a systemic nature.4 Moreover, the very act of IMF borrowing in the market to tackle an emerging crisis may have a stabilizing impact on market expectations.

The approach outlined here raises a number of very substantial issues. To deal with them in depth would be outside the scope of this comment. What follows is a list of some major problems, with a brief indication of how one may want to deal with them.

The first problem is the relationship between the IMF and the instances in which central bank functions are performed at an international level. Since the IMF is not involved in payment systems oversight or banking supervision, the area where a possible overlapping of functions may arise is that of monetary management. Here, obviously, it

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2 A proposal along the lines suggested by Polak was presented by the Italian Deputies of the Group of Ten as a contribution to the preparation of the 1985 Group of Ten report on "The Functioning of the International Monetary System" (see Italy, 1985).

3 The suggestion to study this option in depth was made by the Italian Treasury Minister, Lamberto Dini, in the context of the preparatory work for the Group of Seven Summit in Halifax in 1995.

4 This would be in keeping with the indications of the Halifax summit, which called for "appropriate and adequate multilateral financing mechanisms . . . that can, when needed, be brought to bear on a scale and with the timeliness required to overcome the consequences of external shocks that may arise from the increased mobility of international capital."
would be important to establish appropriate forms of cooperation, building up on the experience accumulated in several episodes in which central banks have made liquidity available to a country in crisis as a bridge to IMF conditional assistance. As in a domestic setting, where the intervention of the central bank to support an illiquid bank does not preclude the involvement of other agencies (treasury, deposit insurance schemes, etc.), the Group of Ten central banks and the IMF should be able to find a viable and cooperative division of labor.

A second, and related, problem relates to the question of whether the so-called monetary character of the Fund would be preserved if its resources were no longer quota based. We frankly believe that the question is largely nominalistic. The monetary character would be truly preserved and enhanced if the IMF was on its way to becoming a world central bank, issuing a single world currency. Since this is not in the cards, nor likely to be, the emphasis on maintaining the monetary character of the Fund has become some sort of a mantra used mostly by industrial countries to exorcise evil spirits advocating a further lengthening of the maturity of IMF credit and a watering down of its conditionality (see Duisenberg and Szász, 1991, and the unpublished paper by Polak quoted therein). Increasingly in a market-led international monetary system, the image and the credibility of the IMF should not be seen as a function of the monetary character of its resources; they would be enhanced by arrangements that would underline the role of the IMF as the key institution empowered by the governments of its member states to extend conditional credit to foster the pursuit of objectives of systemic relevance with resources obtained from the market, cooperating with the central banking community in their respective spheres of competence.

A third, and related, problem regards the relationship between the new market-based IMF and the World Bank. The problem of the growing overlapping of functions between the two Bretton Woods institutions has already been identified in various instances, and the implementation of the approach we are considering would only make it more evident. This is, clearly, a very delicate problem and we have no quick fix for it; however, looking ahead, it is hard to see convincing reasons for maintaining the status quo.

A fourth problem is whether transforming the IMF into a market-based institution would require an amendment of its Articles of Agreement. Although we are not legal experts, we think that market borrowing by the IMF should not per se require an amendment; however, this may be seen as necessary to deal with all the implications of the transition from a quota-based to a market-based IMF. In this case, while recognizing the difficulties implicit in the process, we note that virtually
all proposals advanced over the last several years to enhance the role of the SDR also require an amendment of the Articles. This is so also for the most recent proposal to resume allocation of SDRs for reasons of equity vis-à-vis the new IMF members. We believe that if the complex process of rewriting the Articles has to be undertaken, it would be better to do it in the context of a comprehensive reform rather than to overcome relatively minor constraints.

References


Comments

**H. Onno Ruding**

The sole criterion for judging whether SDRs are to be allocated, and to whom, should be the text of the Articles of Agreement of the IMF: to create SDRs to "meet the long-term global need, as and when it arises, to supplement existing reserve assets." If one disagrees with these criteria as being too strict, then the proper solution is to amend the Articles, rather than interpreting the existing Articles too liberally. However, amending is difficult because of the needed 85 percent majority.

The main issue in the background of the prolonged dispute about new allocations of SDRs is to what extent one is willing to let the IMF play a major role in determining the shape of the international monetary system, particularly the size and composition of international monetary reserves. After all, the original intention of the 1969 amendment of the Articles was to make the SDR "the principal reserve asset in
the international monetary system," as a replacement for gold as a monetary unit and, over time, according to many, also as a replacement for the U.S. dollar. Clearly, the SDR today is far from being a major element in the international monetary system and it is unlikely that it will become so in the future.

There are currently two fundamental obstacles against a new allocation of SDRs:

- Doubt or disagreement on whether the conditions—as stated in the Articles—are fulfilled. Germany in particular has consistently and forcefully made the point that there was and is no global shortage of international liquidity; and
- This consideration is related to the traditional issue of the willingness—or the lack thereof—of countries to reduce their autonomy and sovereignty in monetary matters and to transfer a (larger) part of these national powers to an international institution, namely, the IMF.

I agree with much of the analysis in the paper by Eichengreen and Frankel and with their conclusion that “the future of the international monetary system is unlikely to entail an expanded role for the SDR.” The trends, as described in their paper, toward growing international capital mobility, exchange rate flexibility, simultaneous access by most, if not all, countries to private international financial markets to finance their balance of payments deficits and/or to supplement their (gross) monetary reserves, all reduce the likelihood of a global liquidity or reserve shortage. The changes that have occurred since the 1960s make it less likely that new creation of SDRs is necessary to resolve the Triffin dilemma that haunted the 1960s.

That still leaves the important question of what to do with individual countries that, at any particular moment in time, do not have this needed access to the private international financial markets because of their declining creditworthiness. Unlike Eichengreen and Frankel, I am not sure whether “there is a consistent argument for an SDR allocation to provide the resources needed to manage national financial crises with international implications...”

Recently, in the wake of the Mexican crisis, a new idea emerged: a combination of a new emergency, or contingency, facility in the IMF to provide substantial financial support for a member country facing an acute payments crisis and the funding of such a safety net through SDRs. This use of SDRs presumably implies a new allocation, with the understanding that a number of other countries make these additional SDRs available to the IMF for this purpose, by way of voluntary grants.
or loans. This idea is intended to serve as either a temporary device until the IMF has completed its next general quota increase or as a permanent new role for SDR allocations. I will limit my observations on this suggestion to expressing doubt about whether SDR allocations to resolve any liquidity problem of the IMF itself meet the criteria for SDR allocations under the Articles. A Mexico-type liquidity crisis in one country is serious indeed but does not necessarily imply a global shortage of liquidity or reserves, as the Articles require.

Eichengreen and Frankel rightly observe that "there are more direct and desirable means of underwriting the relevant facility." I presume they think of the traditional but still essential use of the IMF credit facilities, either the unconditional credit or, more likely, the conditional IMF tranches that may be coupled with ad hoc bilateral loans from other countries. This solution, however, requires a sufficient size for the IMF's credit facilities, which is related to members' quotas (both the amount of each quota and the "access limit"). To achieve a substantial increase in available IMF credit while preserving a sufficient degree of overall liquidity for the IMF necessitates timely and substantial general increases in quotas.

However, this moves the debate from the one major and permanent policy struggle in the IMF—lack of sufficient support for new SDR allocations—to its other major and permanent policy battle—lack of sufficient support for new general quota increases, particularly substantial and rapid ones. I am afraid that, if for many years to come, the IMF continues to face a lack of a sufficient majority for both a general SDR allocation and a general quota increase, it will become difficult to provide adequate solutions if and when several cases of sizable problems of individual countries occur. The proposed substantial increase in the GAB facilities can perhaps provide an alternative, though less fundamental, solution.

Compared with the years leading up to 1981, when a substantial amount of SDR-denominated Eurobonds was issued (interestingly, all by European borrowers and most of them by semiofficial institutions) along with a moderate volume of SDR-denominated bank deposits and bank credits, to the best of my knowledge the volume of financial transactions in SDRs in the private sector today is close to zero. On the other hand, the volume of ECU-denominated Eurobond issues, bank credits, and bank deposits has been substantial in recent years. A striking difference exists today between the use of the SDR and the ECU in private financial transactions. Two questions arise in this respect. What is the reason for this difference? And, can the SDR achieve a more important private role similar to that of the ECU?
When looking for explanations for the different degrees of private use, I consider the following factors relevant. First, official institutions are permitted to enter into ECU-denominated transactions with the private sector whereas this is not possible for the SDR because the current rules of the IMF do not allow nonofficial institutions to become "other holders" of SDRs. Therefore, Polak suggests the desirability of an amendment to the IMF Articles that would permit commercial banks to become "other holders." This change could indeed make the private role of the SDR more important if the central banks (and the IMF itself?) would actively use this freedom to induce commercial banks to receive SDR deposits from them or to place SDR deposits with them (or other forms of transaction in SDRs).

Second, governments of some European countries, as well as the European Union itself, are active in issuing ECU-denominated bonds. The private use of the SDR would get a boost if member countries of the IMF would do the same in SDRs. The most logical official user of SDR borrowings in the private markets would be the World Bank. It has always been a surprise and a disappointment to me that the sister Bretton Woods institution has consistently refused to endorse the SDR concept, particularly by not using the SDR as the unit of account for its own bookkeeping and its own transactions with its member countries. The World Bank should change its policy by switching to the SDR both for its internal use and for (partial) use in its borrowing in the private markets. This policy depends on the attitude of the World Bank management and its member countries (which are the same as in the IMF). As long as the World Bank, with its prestige and size, does not play such a proactive role, I consider it unlikely that a wider use of the SDR will get off the ground.

Third, contrary to the hope expressed by Polak, I am afraid that the large international commercial banks will not be very motivated to become active intermediaries in SDR transactions unless their customers (official institutions, corporations, institutional investors, and individuals) are interested in obtaining assets and/or liabilities denominated in SDRs. At this moment, we at Citibank are not aware of any such interest, as opposed to the ECU. (One international organization in the private sector, IATA, makes occasional use of the SDR for airfare pricing decisions.) And if such an interest should arise, in today's market conditions it is no longer necessary for banks to offset any assets or liabilities arising out of SDR-denominated transactions with its customers, with opposite hedging transactions formally denominated in SDRs. Any type of transaction in SDRs like borrowing and lending can now easily and inexpensively be made with the help of the wide array of available derivative tools in the underlying currencies of the SDR basket. One can synthetically construe any imaginable transaction, which de facto
mirrors the SDR. As Eichengreen and Frankel rightly observe, "They can do so without the IMF's help" and without being recognized as "other holders."

Fourth, it is conceivable that there are more market parties that feel a need to cover risks arising out of their daily business through offsetting transactions in ECUs than is the case for SDRs—particularly for companies or investors with operations in many European countries.

On the above-mentioned grounds, the ECU has obtained "a larger natural base of constituents" (I refer to the expression used by Eichengreen and Frankel) than the SDR, which "lacks a natural constituency." This will certainly increase if the European Union, or a number of its members, achieves a monetary union with the euro as its single currency.

In general, I find the lack of interest on the private sector's part to make use of "composite currencies" in private contracts somewhat surprising in a world in which so many complain about the lack of stability of the (external) value of the major national currencies. Despite this instability and subsequent risks and exchange losses, only a few market participants appear to be interested in transactions in a basket of currencies with the inherent reduction of these risks and losses. Part of the explanation may be that for many—particularly nonprofessional investors or borrowers—the concept of a composite unit consisting of a basket of currencies is still complex and difficult. For those who explicitly want to avoid risks of an individual currency (particularly the U.S. dollar, with its heavy weight in the SDR, and the deutsche mark with its heavy weight in the ECU), the unit is unattractive if that currency is included in the basket. Alternatively, if an investor is heavily interested in assets denominated in a particular currency because he holds strongly positive views on its future value, any basket currency offers an insufficiently attractive investment opportunity because of the too-watered-down presence of that currency. There may be doubt in the minds of many private parties about whether the future existence of the unit is sufficiently secured, as well as uncertainty about any changes in the composition of the basket and about its market liquidity. This last uncertainty may be associated with the absence of an institution that acts as a lender of last resort.

One can raise the question of whether the current composition of the SDR basket is the optimal one or whether a different composition would contribute to a greater popularity for the SDR. I think that the latter question deserves a positive answer, although I admit that in practice a change will not make a fundamental difference. While it is true that a basket with a large number of currencies, most of them representing only a tiny fraction of an SDR, would not offer an improve-
ment, being too cumbersome and too complicated, I feel that the current composition of five currencies of the Group of Five countries is too limited. A basket of the currencies of the Group of Ten countries, which in fact consists of 11, including the Swiss franc, could provide a broader base, making the SDR more representative of private international flows of trade and investment. It also would reduce the weight of the U.S. dollar, which is now seen by many as too high.

The unresolved impasse at the Annual Meeting of the IMF in Madrid in 1994 was caused by an additional problem: disagreement about the treatment of different groups of member countries with respect to their shares in any new SDR allocation. Particularly, the interests of former centrally planned countries, which, as new members of the IMF, had never received any SDR allocation (the "equity" argument), clashed with the interests of most developing member countries, which wanted a sizable share in any allocation. This dispute was and is indeed a complex one to resolve because both sides have some good arguments for their case. The simplest, as well as the crudest, way to resolve this issue would be to increase substantially the overall size of the SDR allocation so that all countries would receive—in absolute terms at least—a satisfactory amount of SDRs. This solution, however, obviously ran into insurmountable problems because it raises the objections mentioned earlier of other members in an even more pronounced way.

One of the lessons I have learned after almost thirty years' experience with discussions on SDR allocations is that the most effective way to kill any proposal for SDR allocations is to advocate the famous "link": that is, to defend a new SDR allocation as such or the proposed distribution of any new SDR allocation, or both, on the basis of the special interests of developing or poor member countries—in other words, the link between SDR allocations and development aid. My point, obviously, is not that it should be welcomed that SDR allocations are blocked by proposing this link. My point is that the link strengthens the arguments of those who are opposed to a new allocation because it runs counter to the criteria stated in the Articles, which prescribe that SDR allocations be made proportional to each member's quota. Therefore, developing countries that are strongly in favor of both more development assistance and new SDR allocations are well advised not to press hard for SDR allocations as an indirect way of enhancing the flow of development assistance: this approach is counterproductive.

Based on my experience in government and in the IMF, I have the impression that several of the industrial countries that have consistently expressed their support for new SDR allocations have done so in a lukewarm way. They remain not really convinced that the criteria of the Articles for new allocations are met, particularly the "global need" for ad-
ditional liquidity, but on the other hand they do not want to become involved in a confrontation with either the Managing Director of the IMF, who is proposing new allocations, or the developing countries (particularly those in the same IMF constituency), most of which were and are strongly in favor of substantial allocations. As a result, they express support for a "modest" or a "moderate" or "small" allocation by way of compromise, using the argument that (small) allocations would contribute to keeping the SDR system in itself alive. Within most industrial countries a difference of opinion traditionally exists between the central bank (reluctant toward new allocations) and the ministry of development cooperation (in favor), with the ministry of finance somewhere in between.

Comments

Wendy Dobson

The task of this session is refreshing because we have the opportunity to cast the topic in a slightly different way and to look at it through a different lens, through the possible future evolution of the international monetary system. In these remarks, I am going to go even further and reframe the topic slightly more to think about the implications of the evolution of the international monetary system not just for the SDR but for the IMF, because that has been an important subtheme that has been running through the discussions in this seminar.

Within this focus, the Eichengreen/Frankel paper makes a very solid contribution, and I do not have very many quarrels with it. The three possible futures for the international monetary system that they discuss, and the forecast of the demand for and supply of reserve assets for the SDR as a reserve asset and as a unit of account, are all spot on. Furthermore, I agree with their conclusion that, based on this reasoning and the data that they use, the role of the SDR is unlikely to expand in any of these futures for the international monetary system. I do, however, have a couple of quibbles. First, with respect to the role of the SDR: they argue, as others have, that developing countries, through economic growth, the deepening of their financial markets, and the adoption of reasonably flexible exchange rates will evolve to the point where, like the industrial countries, they will be able to acquire low-cost reserves in private capital markets. But I am mindful that others, particularly including the Fund staff, have argued that there are substantial costs to be incurred along the way. I have not heard anyone here challenge Michael Mussa's presentation yesterday indicating that the staff analysis shows a significant cost advantage of providing for some growth in the demand for reserves through an SDR allocation.
My second quibble is on the characterization of the future evolution of the international monetary system. The two authors identify the near, intermediate, and "social science fiction" futures. My own view has futures of the international monetary system arranged on a slightly different spectrum, where we can think of the short-term or the immediate future in the middle of the spectrum. That future is a continuation of the status quo in which exchange rates are flexible but, because of economic interdependence, governments are somewhat persuaded that they can improve international performance if they cooperate or at least on an ad hoc basis impose peer pressure on each other when national policies produce negative spillovers. In this context, of course, the IMF has an important role as objective referee.

At one end of the spectrum, we could envisage a return to independent policymaking with all the adjustment left to market channels, one of the consequences being that we endure things when the markets get it wrong. And, of course, in this world there is not much role for the IMF. Then there is the other end of the spectrum, which is science fiction, a distant future in which there is supranational integration and governments give up much of their economic decision making and monetary sovereignty to a world central bank. Neither of these two extreme scenarios is very likely in the foreseeable future, but if a world central bank was to be considered, we would be thinking very carefully about the various roles that are played now by the IMF because it would be one of our major candidates for a world central bank. And, of course, one of those roles would be as issuer of a world currency.

What is likely in the evolution of the status quo is evolution in the direction of greater recognition of interdependence, with the eventual emergence of EMU and various degrees of cooperation elsewhere but mainly on a regional basis. And, as Stanley Fischer observed in one of his opening remarks yesterday, we could see the emergence of target zones for the three major currencies. In this world, the IMF has a very important role, but that role is surveillance, not that of a supplier of a reserve asset or a unit of account. The surveillance role is to oversee macroeconomic policies and exchange rates and (increasingly) capital accounts to promote the ability of the international community to act together, to reduce short-term fluctuations.

In today's world of floating exchange rates and large speculative capital flows, the first line of defense for national authorities is a good offense in the form of prudent macro policies and sound financial practices. It is a world in which IMF surveillance has an important and still evolving role. It is evolving in part because of the decisions made at the 1995 Group of Seven summit for the Fund to develop a more ac-
tive role with emerging economies that are attracting short-term capital flows.

The Managing Director of the Fund has exhorted us to find a future for the SDR, and that we can certainly do. But I am concerned that we spend far too much very valuable time, time that has an opportunity cost, on this particular issue. And, as Michael Mussa colorfully pointed out yesterday, the SDR is not in the top ten hit parade of international monetary problems. Some would even say the SDR is a solution looking for a problem.

Having listened to the debate over the past two days, I also agree with the general statement that an unconditional SDR allocation is merely a way to "raise the Visa limits." But I am persuaded that what the Fund has in mind is not inflationary; it would amount to concessional credit and it should be conditional. I am not persuaded that a focused allocation at this time, which is a unique time in history, would be a precedent that would create pressures to repeat it, partly because I think it can be fenced in as an administrative matter. But the discussion over these two days on the conditional allocation issue is also the discussion that has over the years absorbed so much time and opportunity cost. And so, in going forward, it is worth considering Alec Chrystal's suggestion that new members receive SDR allocations with their quotas, even if such allocations are unconditional, which could be an efficient way to proceed that turns the whole matter into a more routine and less political issue.

Overall, in the context of the evolution of the international monetary system and the role of the IMF, the SDR does not appear to have an important future, as Eichengreen and Frankel have pointed out. But other IMF roles do, and I would like to conclude by making two pragmatic suggestions. First, the Fund has an important role to play in responding to international crises, especially if the crises are not justified by the fundamentals. To respond effectively, it needs a mechanism for an automatic but modest form of low-cost concessional credit. To finance such a facility, in turn, a quota increase, an activation of the General Arrangements to Borrow (GAB), the proposed parallel facility to the GAB, or some combination would be necessary.

Second, the IMF has another important role, which is to prevent those international crises. And that, in conclusion, brings me back to the need for a stronger role for IMF surveillance, where the IMF can make a difference to the performance of the world economy and to the fortunes of all of its members. It was useful to have pointed out yesterday that surveillance could have played a role in preventing the Mexican crisis, but I do not think that an SDR allocation would have had much relevance to this issue.
General Discussion

Peter Kenen referred to a point made by Eichengreen on the terms of access and activation of the General Arrangements to Borrow (GAB) and parallel arrangements for dealing with emergency financing problems rather than use of a special SDR facility. He recalled that when the GAB had originally been drafted, the operative phrase had been to “forestall or cope with an impairment of the international monetary system,” the meaning of which had been understood in the 1960s. But when the GAB was amended in 1983 to allow for activation when the country drawing on the Fund was not a participant, new wording was added to allow for activation “in an exceptional situation associated with balance of payments problems of members of a character or aggregate size that could threaten the stability of the international monetary system.” Both of these cases, but especially the latter, carry the implication of systemic risk. In recent discussions on the enlargement and development of a parallel facility, these terms of activation and the need to find that there was indeed a systemic risk had been further considered. Kenen contended that long-run global need was easier to define than systemic risk and hoped that in the final language on the parallel arrangement and the modification of the existing arrangements, somewhat less ambiguous and perhaps somewhat easier language would be used to permit access to the GAB.

Barry Eichengreen agreed that Kenen had raised a very important point, which he and Frankel had stressed in their paper: that there are very real difficulties with means other than an SDR allocation for funding a quick-disbursing facility.

Responding to a question from Christian de Boissieu about currency blocs, Eichengreen emphasized that it had not been his and Frankel’s intention to suggest that the euro bloc would be a closed bloc, but only to suggest that it was natural, in the sense that the constituent countries would trade disproportionately with one another, that they collectively would be more closed to external trade than they were individually, and that the European central bank might, therefore, be inclined toward policies of benign neglect with regard to the exchange rate.

De Boissieu, referring to Dobson’s point about surveillance in a multiple currency system, regretted that in the past, policymakers had been more receptive to the international coordination of prudential policies in Basel and in Brussels than they had been to the coordination of national monetary policies. It was important to recognize that it was difficult to decouple prudential policy from monetary policy. The question arose whether this gap was likely to continue in the future.
William Allen addressed the issue of market failure, which was a key issue for policy. The cause of market failure (private lenders rationing credit to creditworthy borrowers) was worth examining, in order to judge whether one should try to offset it or to remove it. At least two possible causes had been suggested: the herd instinct among lenders, which was quite plausible; and lack of competition among lenders, which was less plausible. He believed a likely root cause was lack of information. Plenty of information was available in the market about the large, rich, and clearly creditworthy countries—in the form of analyses of their macroeconomic situations provided by the OECD but also widely presented by commercial commentators. The information provided reassurance to financial markets and lenders and was also useful guidance for policymakers. In comparison, the process was less effective in less clearly creditworthy countries, particularly for those countries not members of the OECD, in which fewer private sector and official analyses of their economies were published. Financial markets therefore had less knowledge and were more cautious, and policymakers also received less guidance.

There was scope for official action, irrespective of what was decided about SDR allocations, Allen perceived. He sought reaction to the proposal that there should be not only more public provision of information, which the Fund was already promoting, but also more public access to macroeconomic analysis produced by the Fund and other official bodies.

Eichengreen interpreted Allen's comments as a real reminder of the importance of IMF surveillance. His own interpretation of the meaning of surveillance was the assembly and release and analysis of information. Obviously there were very delicate issues involved. The timely release of the latest up-to-date information did not obviate the need for thinking seriously about some kind of safety net for countries in a situation like that of Mexico at the beginning of 1995. The problem in at least some such cases was that a crisis could be precipitated by unanticipated events; a mechanism was still needed for coping with such crises.

Wendy Dobson agreed that Allen had raised an important issue with respect not only to market failures but also to the need for both better informed participants in markets and political players at the national level. The Fund should make more information available on a timely basis, because there was a lack of transparency in the judgments being made by bond-rating agencies. At the national level in democratic societies there was a great need for more informed debate about the options available in the conduct of macroeconomic policy.
Montek Singh Ahluwalia remarked that the discussion so far had raised two separate sets of issues. One related to whether there were ways of improving the character of the SDR, including weights and interest rates, or increasing the list of eligible holders, or perhaps persuading the World Bank (as Onno Ruding had recommended) to issue bonds denominated in SDRs. All of these suggestions were designed to increase the proportion of assets, claims, and transactions taking place in SDRs, and thereby to move a little closer to making the SDR the principal reserve asset. The problem was that all these issues had been put forward without any suggestion that the IMF should become a supranational monetary authority, leading to the perception that monetary authorities would remain national, but that by some sleight of hand everybody could be persuaded that many more assets and claims should be denominated in SDRs. The other set of issues related to a much more humble role for the SDR: providing a supplement for reserves—the role that developing countries had in mind when expressing an interest in SDR allocations. These two roles were quite distinct. It was perfectly possible to make a case for an additional allocation of SDRs on the grounds that there was a need to supplement reserves, albeit not necessarily on some definition of global need, without raising the other issues. Given the total size of outstanding SDRs, presumably not many people could be persuaded to start transacting and denominated claims and assets in SDRs unless there were an associated change, with the incentive for expanding total money supply coming from the Fund. This was a remote prospect at present.

If the larger objective was not going to be achieved, some would argue that perhaps the second objective was completely irrelevant, which Ahluwalia did not believe. It should be possible to say—and this would require an amendment to the Articles—that the objective of making the SDR the principal reserve asset was not really relevant or likely except in a completely different kind of world. But even if that was so, the second role for the SDR to supplement reserves remained relevant and should not pass by default. Perhaps more agreement on that role could be achieved than presently existed.

Michael Mussa, following up on Ruding's suggestion about the World Bank's role in using the SDR, recalled that the Articles of Agreement spoke of the obligation of members to cooperate with the Fund in a manner that was consistent with the objective of making the SDR the principal reserve asset of the international monetary system—however foolish that might look in the present environment. Why should that obligation be any less binding on members than the criterion of long-term global need to supplement reserves in discussions about allocations?
While acknowledging that it was not a criterion for allocation, Mussa wondered whether cooperation in expanding the role of the SDR did not also imply some cooperation on the part of governments, including in their capacity as members of the World Bank, to act, for example, to further the role of the SDR by helping to create a private market for it through the issuance of SDR-denominated securities. Action to promote the use of the SDR was not limited to the issue of allocations. The language in the Articles suggested an obligation, and part of the question was what members of the IMF were doing to fulfill that obligation.

If the Articles of Agreement were going to be so flexibly interpreted that that part of the Articles could simply be ignored, then Mussa suggested a little more flexibility also in interpreting the criterion of long-term global need to supplement reserves. He argued that the issue of equity for new members of the Fund embodied a long-term need to supplement reserves: without an allocation or an amendment, new members would never get a stake in the SDR system. Also, every world leader had declared that this was an important issue for the international financial community. Under a literal interpretation of the plain language of the statute, that would qualify as a long-term global need to supplement reserves through an SDR allocation, Mussa maintained.

Robert Chote, following up on Mussa’s comments, reiterated what Alexander Swoboda had said about the meaning of long-term global need: that there was never a time, either under the Bretton Woods system or after, when the world could not generate the reserves that it needed; there was never a time when the only way of satisfying the need was to allocate SDRs. What was different was the cost of generating reserves through allocation. Chote declared that it was not necessary to be so apologetic about the interpretation of long-term global need. The designers of the First Amendment would not have provided a criterion that had no potential.

Ariel Buira suggested that attention should be paid to what kind of monetary system was required and how reserve needs could be met in the world of today. For the reserve currency countries and for a small group of countries with market access, the international monetary system worked very well. But for some 140 other countries, it did not work very well. These countries could meet their reserve needs only at considerable cost, and therefore their economies often had to perform below potential. It was perhaps too comfortable to forget about them. It should be the role of the Fund to find a more efficient and fairer system, perhaps along the lines suggested by the Saccomanni/Padoa-Schioppa paper.

Fabrizio Saccomanni responded that he did not want to sound unsympathetic to the needs of the 140 countries not enjoying easy market ac-
cess. He noted that there had not been an issue of SDRs for the last fifteen years. The problem was that there was some confusion of roles connected with proposals for SDR allocations, which created anxieties among the industrial countries that excessive monetary creation might be involved. Market failure and market imperfections could not be solved through the issue of a monetary instrument. He and de Cecco had sought to clarify these issues by treating monetary problems as conceptually separate from the problem of recycling international liquidity efficiently through the Fund.

Onno Ruding agreed with Dobson and others that the first priority of the IMF should be surveillance. He had become more liberal over time with respect to the IMF disclosing much of its own thinking and data about its member countries, and the move should be in that direction. However, the IMF’s other major role should be its task of supporting members in balance of payments difficulties, or even those wanting to increase their reserves. Ruding agreed with Buira and others that attention should again be drawn to the plight and needs of many member countries. Although the situation had changed since the 1960s, and many of those countries that needed to borrow could and did now tap the private markets, the plight of a smaller but very important number of countries that were judged to be less creditworthy still remained. But he was less sure that SDRs, rather than more traditional credit facilities, partly automatic and partly conditional, were needed to resolve the problems of that group of countries.

Ruding agreed with Kenen and others that to be effective and relevant the IMF must have an emergency facility to provide substantial and rapid support. Support had been shown for quota increases and IMF liquidity. The more difficult factor was the speed with which use could be made of those resources. In practice, a combination had to be found that gave the IMF an opportunity to react immediately, even beyond the automatic tranches, for a certain amount in a real emergency for a country with substantial needs. The Mexican case had shown that assistance could be provided quickly if appropriate conditions existed, and if the membership was willing to cooperate on the size of overall Fund quotas.