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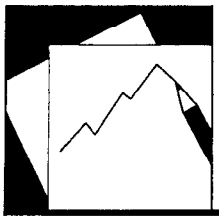

IMF Working Paper

International Liquidity and the Role of the SDR in the International Monetary System

Peter B. Clark and Jacques J. Polak

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Research Department

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Abstract

This paper describes how the changed conditions in the international monetary system have undermined the role originally envisaged for the SDR. It argues that the concept of a global stock of international liquidity, which was fundamental to the creation of the SDR, is now no longer relevant. Nonetheless, there are good reasons to satisfy part of the growing demand for international reserves with SDR allocations: (i) there are efficiency gains, as SDRs can be created at zero resource cost, and thus obviate the need for countries to run current account surpluses or engage in expensive borrowing to obtain reserves, and (ii) there would be a reduction in systemic risk, as SDRs would substitute to some extent for borrowed reserves, which are less reliable and predictable source of reserves, especially in times of crisis.

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I. INTRODUCTION

The introduction in 1969 of the special drawing rights (SDRs), the reserve asset issued by the International Monetary Fund, was prompted by the desire to establish a mechanism for the deliberate creation of international reserves that would supplement existing reserve assets. In the 1960s these assets were mainly in the form of U.S. dollars, the supplies of which were constrained by the Bretton Woods system of fixed exchange rates, and of gold. The SDR was seen as a way out of the so-called Triffin dilemma whereby additions to official dollar holdings were seen as undermining the stability of the system, given the tendency on the part of some central banks to convert their dollar reserves into gold, thereby drawing down the limited U.S. gold stock.

The first allocation followed shortly after the establishment of the SDR in broadly equal installments on January 1, 1970, 1971, and 1972, with the total amounting to SDR 9.3 billion. The second allocation, totaling SDR 12.1 billion, took place in three similar annual installments on January 1, 1979, 1980, and 1981. Since that time there have been no further allocations. The Fourth Amendment of the IMF Articles of Agreement, which provides for a special one-time allocation of SDRs and was approved by the IMF Board of Governors in1997, still awaits ratification by the U.S. Congress before it can go into effect. Most recently, in December 2001, the IMF Executive Board discussed the question of whether there should be an SDR allocation in the period 2002–2006 and (as it had done on many previous occasions) registered insufficient support for it. With no allocation for over two decades, the share of SDRs in total world reserve assets has declined to about 1 percent.

While the opposition on the part of most industrial countries continues to prevent a general allocation of SDRs, proposals for use of the SDR mechanism for purposes different from those contemplated by the Articles continue to be launched by some countries and in nonofficial circles. In the mid-1980s, Executive Directors from Belgium, France, and India each sponsored a slightly different plan under which creditor countries would lend to the IMF the SDRs allocated to them, for use by the IMF in conditional credits to developing countries. The Board as a whole saw no merit in this unorthodox method of financing the Fund's business and rejected all three proposals (Boughton 2001, pp. 948–49). In 1988, President Mitterrand of France proposed that the developed countries contribute their shares in a new allocation of SDRs to a special fund in the IMF that would guarantee the interest payments on certain obligations issued by debtor countries.

More recently, ideas have been put forward to use the SDR mechanism to enable the Fund to play the role of lender of last resort without having to worry about the means to do so. A Task Force sponsored by the Council on Foreign Relations suggested that a new "contagion facility" in the Fund be funded by a onetime, very large, allocation of SDRs, with all members donating the SDRs received to that facility (Goldstein 1999, p. 111[2]).

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[2] The report mentions illustrative numbers of $45 billion and $100 billion. The leading proponent of the idea on the Task Force, David A. Lipton, aimed even higher, namely an

Richard Cooper goes one step further. To provide the IMF with "sufficient resources to cover even the worst contingency", he would amend its Articles of Agreement to allow it to create SDRs, on a temporary basis, as needed to deal with financial crises and to forestall creditor panic (Cooper 2002, p. 99).

While SDR allocations have not found favor on the part of most industrial countries, they have recently received attention in nonofficial circles. For example, the Zedillo Report advocates a resumption of SDR allocations, and George Soros (2001) has put forward a proposal which would use part of the SDRs created under the Fourth Amendment, as well as of subsequent annual allocations, as a trust fund to finance the provision of global public goods and possibly other development assistance activities.[3] These proposals were discussed at the UN International Conference on Financing for Development held in Monterrey, Mexico, in March 2002, but were not endorsed in the Monterrey Consensus.

Against this background, it would appear opportune to take stock of what role, if any, the SDR can play in the international monetary system. It needs to be recognized at the outset that the conditions in the international financial system which gave rise to the creation of the SDR no longer apply. First, in the industrial countries, the adoption of more flexible exchange rates has reduced the level of international reserves compared to that needed to maintain the fixed parities that were prevalent during the Bretton Woods era. Second, the concept of a given stock of global international liquidity, which provided a constraint on the operation of the system of pegged rates, is no longer relevant. International reserves can now expand in response to demand, and the role of the SDR in relieving the constraint on the supply side has correspondingly diminished.

Notwithstanding these major changes in the international monetary system, we argue that the SDR can play a role in supplementing the growth of other reserve assets by providing essentially owned reserves to many Fund members at lower cost than they could achieve by borrowing on world capital markets. This lower cost is not likely to be matched by a correspondingly higher expected default risk borne by Fund membership in general. These owned reserves reduce the vulnerability of these holders to fluctuations in borrowing costs and thereby enhance the stability of the international monetary system, which benefits all countries. As the demand for reserves increases over time in response to the expanding scale on international transactions, modest SDR allocations are unlikely to result in significant

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allocation of $300 billion, with the participants in the New Arrangements to Borrow (NAB) depositing their allocations ($205 billion) in a trust fund to be used only 'as a last line of defense to defend the international financial system in times of dire threat' (Lipton 1999, p. 363).

[3] See the UN *Report of the High-Level Panel on Financing for Development* (the Zedillo Report), available on the UN's external website.

drawdowns of total reserves (resource transfers), but countries may substitute out of SDRs into other reserve assets to obtain a higher return.

The plan of the paper is a follows. In Section II we provide some background on the SDR, its origin and basic rationale, and how the changed conditions in the international monetary system have undermined the role originally envisaged for the SDR. In this section we discuss why the concept of a global stock of international liquidity, which was fundamental to the creation of the SDR, is now no longer relevant. Section III then argues that despite the changes in the international economy, there has been a secular increase in the demand for reserves on the part of most countries, and that reliance on borrowed reserves is not an option for many Fund members and excessively costly for many others. Moreover, while borrowed reserves can substitute to some extent for owned reserves, volatile capital flows increase the need for reserves for emerging market economies. Arguments for an SDR allocation are considered in Section IV, which includes an analysis (i) of the cost advantage of providing reserves in the form of SDRs, (ii) of the risk implications of allocations for individual countries, private creditors, and the system as a whole, (iii) of the extent to which allocations would be either spent or added to reserve holdings, and (iv) of the role for unconditional reserve assets in the form of SDRs as opposed to conditional resources provided under the Fund's facilities. Section V provides concluding remarks.

II. "Shortage" of International Liquidity and the Creation of the SDR

The creation of the SDR—the end result of a massive intellectual and negotiating effort that occupied financial policymakers for most of the 1960s—was designed to bring a definitive solution to a problem that had hovered as a threat over the international monetary system since the end of World War I. That problem was the potential inadequacy of total international liquidity and the fear that this inadequacy might hamper the growth of the world economy. If countries collectively did not possess, and could not obtain, reserves adequate to meet the balance of payments deficits that they were likely to encounter from time to time, they would feel the need to throttle down the growth of their economies. And if many countries adopted precautionary measures of this nature, the world economy might become stagnant.

In the 25 years from about 1880 until the outbreak of World War I, the gold standard prevailed over a large part of the world economy, and after the war the return to that standard was generally considered part of the "return to normal" (Nurkse 1944, p. 7). But there was legitimate concern among economists whether the decline, resulting from the wartime and postwar inflation, in both the real value of the world stock of gold and in the profitability of gold mining would make this possible on a lasting basis.

Ever since the end of World War I, "the adequacy of international liquidity" thus became the subject par excellence of international economics. It was discussed, but not resolved, at a number of intergovernmental conferences in the 1920s and early 1930s. It reemerged as an issue in the war-time plans for the IMF, and again in the early years of that

organization. And, of course, it became *the* topic of international financial diplomacy in the course of the 1960s, leading to a major amendment of the Articles of Agreement of the IMF designed to create a new type of liquidity by the Fund, the "special drawing right" or SDR, and to the first "allocation" of SDRs, on January 1, 1970.

And then, only a few years later, the whole issue began to vanish from the screen. Since, let us say, 1980, there is no longer a concept of finite international liquidity that is seen to act, for better or for worse, as a constraint on, or an encouragement of, national economic policies. The "problem" of international liquidity is no longer discussed at meetings of the International Monetary Fund. Even the disappearance of the problem that enthralled the international financial community for over half a century seems to have gone largely unnoticed.

What is "international liquidity"? From the point of view of an individual country "international liquidity" (of the unconditional sort, that is without counting access to international credit of uncertain availability) is simply a synonym for "reserves," and reserves are those assets of a country's monetary authorities that can be used to finance a balance of payments deficit (Williamson 1973, pp.686–87). There exists a large body of studies concerning the optimum level of reserves that an individual country should seek to maintain and this subject has lost none of its relevance. But if total international liquidity meant no more than the sum of the reserves held by all counties, in the same way as "world trade" is the sum of the imports or exports of all countries, "the adequacy of total international liquidity" would not be an issue. That issue existed only as long as there was a limit on the total amount of the assets in the system that could serve as countries' reserves.

The nature of these assets changed over time. Before World War I, the critical limit to reserves was the amount of gold held by central banks, and the constraint on the growth of that stock over time was seen as a function of gold production and the absorption of gold in the arts—even though many developing countries held a large portion of their reserves in the form of claims in sterling or dollars. The 1922 Genoa conference attempted to loosen the gold constraint by encouraging industrial countries also to hold reserves in the form of claims on reserve centers. But while it was hoped that the adoption of this recommendation by many countries, described as the replacement of the gold bullion standard by the "gold exchange standard," would loosen somewhat the constraint on international liquidity exercised by the stock of gold, it did not remove that constraint. The Gold Delegation of the Financial Committee of the League of Nations warned in 1930 of an imminent shortage of gold compared to the amount required to support the monetary demand for it at the prevailing price level, and assuming a growing world economy. But it also noted, as possible threats to the system, the very uneven distribution of the stock of official gold, in particular the large holdings of France and the United States, and the tendency of major countries to disregard the "rules of the game" of the gold standard.

That standard began to crumble even earlier than the Gold Delegation had predicted, starting with sterling moving off gold in 1931. The United States, and then other industrial countries, followed in 1933 to 1936. As a result of the chain reaction of devaluations, the

value of the stock of gold in official reserves had, toward the end of the 1930s, increased by some 70 percent in terms of national currencies and, because of the collapse of prices during the Great Depression, even more in real terms (Nurkse 1944, p.132). Indeed, in 1936/37, the fear of an inflationary effect of the increased supply of gold led to a widespread discussion of the possibility of reducing the price of gold (Nurkse 1944, p.133).

Although these developments removed for the time being any risk of a liquidity shortage, they were not seen as a lasting solution to the problem of reserve adequacy. The Keynes Plan for an International Clearing Union (Keynes 1942) was designed, inter alia, to meet the need for "a quantum of international currency, which...is governed by the actual current requirements of world commerce, and is also capable of deliberate expansion and contraction to offset deflationary and inflationary tendencies in effective world demand." When the IMF was designed during the war to provide a regime of liberalized payments under exchange rates that were to be maintained at agreed par values, and with credit facilities to assist members in dealing with balance of payments problems, the specter of a shortage of international liquidity was still seen lurking in the background. A remedy for this eventuality was built into the Articles of Agreement of the Fund, which permitted the Fund to "make uniform proportionate changes in the par values of the currencies of all members"—that is, to raise the world price of gold in terms of all currencies and to do this in an orderly way, in contrast to the haphazard experience of the 1930s.[4]

As the IMF started operations, the question of the adequacy of international liquidity was soon again raised and the Fund issued two reports arguing that the problem was not a matter for serious concern (IMF 1953 and 1958). The Fund had already decided in 1949, after a long discussion in the Executive Board, that the remedy provided by the Articles, a uniform change in the price of gold, would be unworkable, because if it were once applied, it would forever after undermine confidence in the new gold value of the dollar (Horsefield 1970, pp. 254–55).

For 15 years after the end of the war, concern about the liquidity issue remained subdued as balance of payments deficits of the United States enabled other countries to rebuild their reserves, both by accumulating U.S. dollars (foreign holdings of which started out very low) and by buying back part of the excessively large U.S. holdings of gold. But by 1960, Triffin had tabled his "dilemma," suggesting a joint limitation on the extent to which U.S. dollars and U.S. gold could contribute to the reserves of other countries. While that dilemma did not pose a precise limit, it suggested that, from the point of view of confidence in the system, the amount of reserves that the rest of the world could accumulate by the withdrawal of gold from the United States plus the buildup of foreign official dollar balances should not go beyond the point where these latter balances exceeded the remaining

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[4] Article IV, Section 7 of the original Articles of Agreement. The provision gave the United States, the United Kingdom and, had it joined, the U.S.S.R. a veto on a decision for a uniform change of par values.

U.S. gold stock. If the need for reserves continued to grow beyond this point, the world risked entering either a period of restrictions, currency uncertainty and deflation caused by a shortage of reserves, or a period of financial uncertainty caused by waning confidence in its main reserve currency.

Triffin's warnings set off a widespread debate on the subject of international liquidity, initially among leading professional economists, including (to name only a few) Marcus Fleming, Milton Gilbert, Roy Harrod, Peter Kenen, and Fritz Machlup.[5] As the official community—treasuries and central banks—also became gradually convinced of the realism of the Triffin dilemma, at least as a contingency with a degree of probability that could not safely be ignored, it undertook a long and convoluted series of studies and negotiations on the subject. These stretched over a six-year period, from 1963 to 1969, but in the end they led to an agreed international answer: the creation of an international asset that (unlike gold or reserve currencies) would have no other function than to serve the need of the system for an adequate but not excessive quantity of reserves. The method chosen to bring this "pure" reserve asset into being was to create a facility in the IMF that was authorized, under strict safeguards against abuse, to create and annul ("allocate" and "cancel") a new form of reserve assets, with the awkward name of "special drawing rights" (SDRs). In accordance with its intended function, the SDR would circulate in the official circuit only; it could only be held by governments, central banks, the IMF and a narrowly defined group of other "official holders."

The creation of the SDR was not accompanied by the abolition of gold and reserve currencies as reserve assets (official discussions to this effect surfaced only later). But the future incremental role for these traditional reserve assets in official reserves was regarded as minor. As far as one could see, newly produced gold was going to be absorbed almost entirely in industry and art, and foreign official holdings of dollars could not be allowed to increase by more than modest annual amounts without undermining confidence in the dollar and risking massive conversions into gold. Thus, the broadly (though perhaps not strongly) held official view underlying the first amendment was that the SDR mechanism could provide a definitive solution to the problem of managing the supply of international liquidity. In 1969, in conjunction with the adoption of the First Amendment of the Articles of Agreement, Section 10 of the By-Laws of the Fund was amended to instruct the Executive Board to assess "the adequacy of global reserves" in its *Annual Report*, and the next five *Annual Reports* contain a full chapter on international liquidity.

As a prerequisite to rational decision-making on the required magnitude of SDR allocations or cancellations, the Fund staff made a major effort to define the concept of the optimum level of international liquidity (Fleming 1961, 1967). "Reserves and reserve growth ought to be increased", Fleming posited, "to the point at which beneficial effects in the form

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[5] The most comprehensive collection of the profession's views on the subject of international liquidity at that time is probably found in International Monetary Fund (1970).

of higher employment and reductions of impediments to international transactions are outweighed by untoward effects in the form of inflation and recourse to official compensatory financing" (Fleming 1967, p. 172). This statement of principle, it should be recalled, referred not to the reserve policy of an individual country but to global reserves and to a process of weighing positive and negative effects occurring in scores of countries. As noted by Kemp (1970), locating this optimum point for the world as a whole would require someone (the Board of Governors of the IMF?) maximizing a world welfare function of extreme complexity.

It was always obvious that it would take some rather heroic assumptions to move from the theory of the optimum level of international liquidity to a numerical proposal on how many SDRs to create. But the situation in the late 1960s appeared to bring an exercise of that nature within the realm of the possible: two of the components of the supply of liquidity (the stocks of official gold[6] and SDRs) were locked in the official circuit, and the third one could (and it was expected, would) be kept under control by the United States authorities in order to avoid the risks of the Triffin dilemma. But in fact, a few months after the allocation made on January 1, 1970, the assumption with respect to the supply of dollars proved to have been wrong. In the course of 1970, U.S. treasury securities held by nonresidents (essentially foreign central banks) nearly doubled, from $10.3 billion to $19.8 billion, and in 1971 they more than doubled, to $46.3 billion (*IFS Yearbook*). Once the United States moved off gold in August of 1971, protection of the gold stock disappeared as an inducement to prevent an excessive flow of dollars into foreign reserves.

August 1971 was also the beginning of the end of the par value system and the start of a movement toward floating exchange rates. The proposition has often been made that, in pure theory, floating rates dispense with the need for reserves (Cooper 1970, p. 143), and if this were true, the introduction of a regime of floating rates would have done away with any problem of a shortage of international liquidity from the demand side. As discussed in the next section, empirical studies of the effect of floating on countries' actual reserve policies in the 1970s suggest, however, that its impact was at most small, and the spread of floating since then has been accompanied by persistently large increases of world reserves. But the main impact of floating on the problem of international liquidity was not that this may have brought for many countries some, at best modest, reduction in their demand for reserves. It is that it liberated the United States, and probably also the two other reserve centers, the European Monetary Union and Japan, from concern about the magnitude of the claims on their economies held by one particular category of foreign holders, namely foreign central banks.

The freedom of capital movements and the desire on the part of investors for the diversification of their assets geographically, as well as in a number of other dimensions, led

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[6] In April 1968, the Group of Ten had decided to sever any link between their official gold stocks and the free gold market.

to large financial cross holdings among the major industrial countries. Some aspects of these holdings, such as the potential risk associated with very large foreign claims on the United States, or the shift of the United States from a net international creditor to a net international debtor, have drawn the attention of some observers, though not to the point of inducing serious consideration of possible corrective policies. In any event, whether these holdings belong to foreign central banks (probably the most stable of all holders) or other foreigners is hardly a matter of concern. Foreign official holders of assets in the United States (which are overwhelmingly foreign central banks) at the end of 2001 of $1.0 trillion were only a small fraction of total foreign holdings of $9.2 trillion, or $6.6 trillion if one excludes foreign direct investment (see Nguyen 2002).

As a result of these changes in the international monetary system, the issue of "international liquidity" has changed totally from that prevailing at the time the SDR was introduced. Two of the three components of international reserves have almost entirely ceased to function in that capacity. Gold has become a nonmonetary asset; many of even the most conservative central banks are in the process of selling their gold holdings in the market. The stock of SDRs has become so small compared to total reserves (about 1 percent) that it has become almost exclusively a vehicle for transactions between the Fund and its members. And there is, for all practical purposes, no limit on the total amounts of assets expressed in the three reserve currencies that foreigners (central banks or others), if they have the money or can borrow it, can accumulate. The problem of the adequacy of international liquidity has not been resolved; it has disappeared. The idea (which had never taken deep roots) that the course of the world economy might be steered by a judicious management of the stock of international liquidity, evaporated with it. Article XVIII, which laid down the principle that the allocation of SDRs should "meet the long-term global need, as and when it arises, to supplement existing reserve assets..." can no longer serve as a guide for allocation in the manner those words were interpreted in 1969.That point was well made by both Mussa (1996, p. 80) and Williamson (1996, pp. 112–13) at the Fund's 1996 conference on the future of the SDR, and it has been implicitly acknowledged by the Fund ceasing, since 1990, to make the required annual assessment of the adequacy of international liquidity (without repealing By-Law 10). In fact, as pointed out by Ahluwalia (1996, pp. 92- 93) at the same conference, the 1978 decision to allocate could not have been taken if these words had not been ignored at that time. Any case for future allocations of SDRs will have to be based on grounds other than the need of the system for additional liquidity; instead, "need" will have to be viewed in terms of other benefits to the system, in particular the distributional benefit of permitting low-income countries to hold reserves at a much lower interest rate than they would have to pay in the market, and a lesser dependence of the system on borrowed reserves that could be recalled at the time they were most needed.

III. Demand for Reserves After the Demise of the Par Value System

The preceding section argued that as the concept of international liquidity has disappeared with the breakdown of the Bretton Woods system, so has the basic rationale for the allocation of SDRs based on global reserve needs. However, there is still a case to be

made for allocating SDRs to improve the operation of the international monetary system. Most countries still need to increase their reserve holdings to buffer their economies in the face of expanding current and capital account fluctuations. Additions to a country's reserve holdings can be generated by running a balance of payments surplus, but this can entail high costs in terms of foregone consumption and investment. Alternatively, reserves can be borrowed on international capital markets. However, while access to capital markets has expanded enormously in the last 30 years, many countries have limited or no access. Moreover, while borrowed reserves can substitute for owned reserves to some extent, volatile capital flows demonstrate that undue reliance on international capital markets for this purpose can be risky. As described in detail in the next section, these considerations argue for SDR allocations as a supplement to other reserve assets to improve the functioning and stability of the international monetary system.

Before moving to this argument, we first describe some of the factors affecting the demand for reserves as well as the terms on which reserve assets can be acquired. This sets the stage for considering the case for allocating SDRs in order to meet the need on the part of reserve-constrained countries for owned reserves at low cost.

As international reserves are used primarily to finance external imbalances directly or indirectly through intervention in foreign exchange markets, the level of reserves would be expected to bear a fairly close relationship to those factors that affect the magnitude of these imbalances. Most studies of reserve-holding behavior indicate that such holdings are positively associated with a scale variable (either aggregate output or imports) and to external payments variability.[7] There is less compelling evidence that reserve holdings depend on the nature of a country's exchange rate regime, the degree of openness, and the opportunity cost of holding reserves.

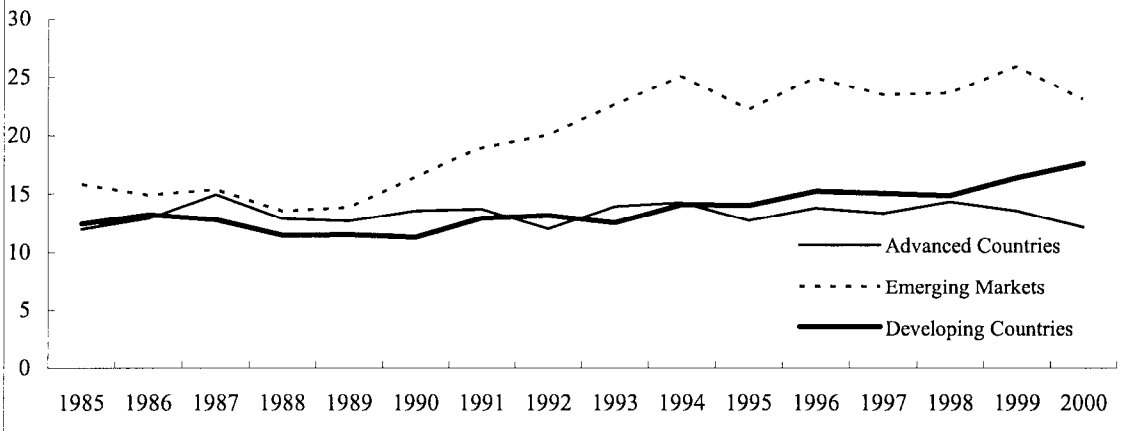
One relevant scale variable is the level of trade in goods and services. Figure 1 shows the ratio of reserves to imports of goods and services, measured as weeks of imports, for three major country groupings: advanced countries, emerging market economies, and developing countries. For the advanced countries, this ratio has fluctuated somewhat, but has not shown any significant net change since 1985. For developing and emerging market countries, there has been some upward trend, which has been particularly evident for emerging markets and, since 1990, for developing countries. Thus, based on past trends, the long-run future demand for reserves would appear to be rising at least in proportion to imports of goods and services.

While reserve demand has been traditionally viewed as determined by developments in the current account, recent crises involving emerging market economies have clearly demonstrated that changes in investors' views on a country's economic prospects can generate major disturbances to the capital account. Adverse economic developments in a

[7] See Flood and Marion (2002).

country and changes in mature financial markets can lead to a sudden withdrawal of capital, and outflows can also be induced by contagion from other countries. The increasing openness of the capital account has heightened the vulnerability of emerging market economies to fluctuations arising in this component of the balance of payments.

Figure 1. The Mean Ratio of Nongold Reserves
to Imports of Goods and Services, 1985-2000
(Number of Weeks Import Cover)



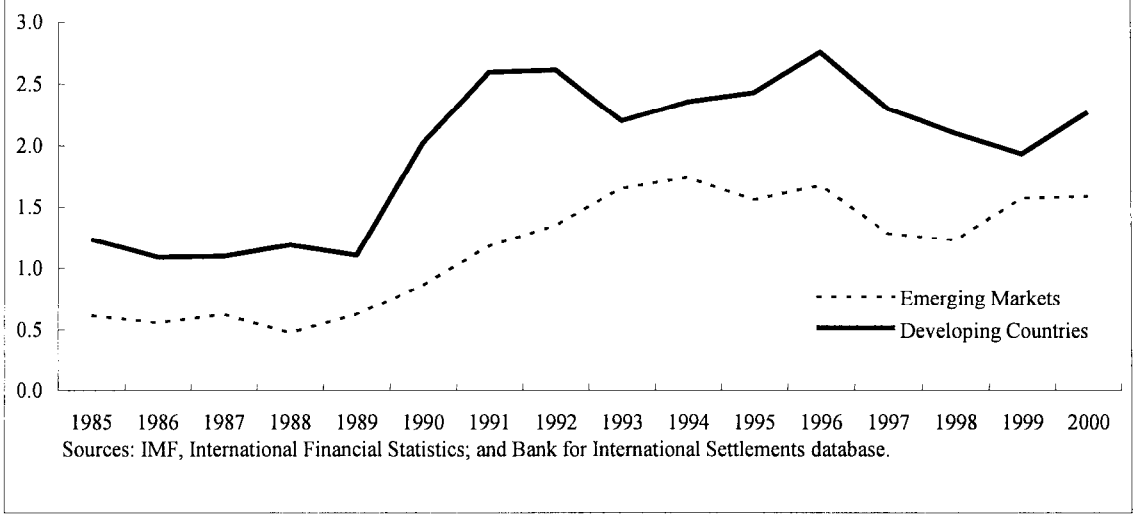
Sources: IMF, *International Financial Statistics* and *World Economic Outlook*. The classification of advanced and developing countries follows that in the *World Economic Outlook*. The list of emerging market countries follows that of Morgan Stanley Capital International.

Research work in the Fund and elsewhere suggests that the ratio of reserves to short-term debt may be a key indicator of reserve adequacy in countries with substantial but uncertain access to capital markets.[8] Indeed, this indicator is used in the early warning system model developed by Fund staff for emerging market economies.[9] As expressed by the ratio of nongold reserves to short-term debt, this indicator rose sharply in the early 1990s for emerging markets and developing countries, but has shown no trend since then (Figure 2). The future evolution of the short-term debt stocks of these countries would therefore have a bearing on the demand for reserves, in addition to the growth in their imports.

[8] See Berg, *et al.* (1999), Rodrik and Velasco (1999), Furman and Stiglitz (1998), and Wijnholds and Kapteyn (2001).

[9] See Berg, *et al.* (1999).

Figure 2. The Median Ratio of Nongold Reserves to Short-Term Debt, 1985-2000



Sources: IMF, International Financial Statistics; and Bank for International Settlements database.

Other capital account indicators could also be considered. One approach would be to combine elements of both the current and capital accounts in order to capture a broader sense of the variability of external transactions. One such measure was considered recently in the context of ongoing work in the Fund on alternative quota formulas: the variability of the sum of current receipts and net capital flows (standard deviation of a three-year moving average calculated using annual data for 1987–1999).[10] This measures the fluctuations in external transactions over a period of time, which would appear to contain relevant information regarding a country's balance of payments financing needs and therefore demand for reserves. To be useful for assessing changes in the demand for reserves over time, a long time series for this variable would be needed, similar to that for imports of goods and services. However, lack of suitable data precludes this. Nonetheless, this measure of variability can be computed for the two halves of the sample period 1987–1999. This shows that between 1987–1992 and 1993–1999, variability increased by 25, 75, and 225 percent for developing, advanced, and emerging market countries, respectively. This finding is consistent with the very large increase in reserve holdings of emerging market countries during the 1990s, as shown in Table 1.

[10] See International Monetary Fund (2001). In this measure, capital flows relate to cross-border transactions in all financial assets and liabilities except reserve assets, Fund credit, and exceptional financing.

Other developments could act to reduce the demand for reserves. To the extent that countries respond to external imbalances by allowing the price, rather than the quantity, of foreign exchange to adjust, the need for reserves to intervene in the foreign exchange market would be expected to diminish. This expectation appears to conflict, however, with the massive increase in reserves for most countries since 1970, including floaters and countries that have moved to a more flexible exchange rate regime (see Table 1). Even if a country only lightly manages its exchange rate, with a relatively closed capital account it would still want to hold reserves and probably increase them over time in order to help smooth output fluctuations arising, for example, from large movements in the terms of trade. Some empirical studies (see, for example, Lizondo, Mathieson (1987); and Bahmani-Oskooee and Malixi (1987) have found that the move to greater exchange rate flexibility following the collapse of the Bretton Woods system did appear to reduce the demand for reserves for both developed and developing countries. However, while Mussa *et al.* (2000) show that the number of countries with de jure flexible exchange rates has increased over the past twenty years, Calvo and Reinhart (2002) argue that de facto flexibility has increased to a far lesser extent. Moreover, Reinhart and Rogoff (2002) find that the breakup of Bretton Woods had a much less significant impact on exchange rate regimes than generally believed.[11] This finding suggests there was no clear wholesale move to freely floating rates, implying that any reduction in the demand for reserves from this development would be modest.

[11] Looking at market-determined exchange rates, they find that it is difficult to detect any change in exchange rate behavior for many countries, with the demise of the Bretton Woods system manifested largely in the shift to floating of the U.S. dollar, the yen, and the deutsche mark.

Table 1. Worldwide Nongold Reserves, 1970-2005 1/

(In billions of SDRs)

	1970	1975	1980	1985	1990	1995	2000
Advanced Economies	41.9	89.1	196.4	247.6	466.7	599.3	860.4
of which: 2/							
Canada	3.9	3.8	2.4	2.3	12.5	10.1	24.5
Hong Kong SAR	...	...	...	...	17.3	37.3	82.5
Japan	4.3	10.2	19.3	24.3	55.2	123.3	272.4
Korea	0.6	0.7	2.3	2.6	10.4	22.0	73.8
Emerging Markets	8.8	42.3	70.9	93.8	100.3	278.2	470.0
of which: 2/							
China	...	...	2.0	11.6	20.8	50.7	129.2
India	0.8	0.9	5.4	5.8	1.1	12.1	29.1
Mexico	0.6	1.2	2.3	4.5	6.9	11.3	27.3
Poland	...	...	0.1	0.8	3.2	9.9	20.4
Developing Countries 3/	3.7	9.4	25.5	25.5	19.2	31.1	68.5
of which: 2/							
Algeria	0.1	1.0	3.0	2.6	0.5	1.3	9.2
Kuwait	0.1	1.3	3.1	5.0	1.4	2.4	5.4
Libya	1.5	1.8	10.3	5.4	4.1	4.1	9.6
United Arab Emirates	...	0.8	1.6	2.9	3.2	5.0	10.4
Total	54.3	140.8	292.8	366.9	586.1	908.7	1,398.9

Source: IMF, *International Financial Statistics*.

1/ The increase in worldwide reserves between 1970 and 1995 is slightly overestimated because data for a few economies become available only in the latter part of the period.

2/ Economies with the largest increase in reserves (in billions of SDRs) between 1995 and 2000.

3/ Excluding economies that are included as emerging markets.

Any tendency for the demand for reserves to fall on account of greater exchange rate flexibility appears to have been offset by capital account disturbances. Such disturbances have greatly increased in magnitude, especially for emerging market economies, which has put a premium on having a suitably large stock of international reserves to reduce countries' vulnerability to such disturbances. Indeed, the Fund has been urging members to give greater prominence to holding adequate stocks of reserves to reduce external vulnerability. Moreover, even with a pure float, in countries where the banking system is exposed to foreign currency risk, the central bank may wish to hold large reserves in order to be able to stem a run on domestic currency deposits.

As noted in the preceding section, the notion of a fixed stock of international liquidity constraining the operation of the international monetary system no longer applies since the

breakdown of Bretton Woods. There is nothing in the present international monetary system that stands in the way of monetary authorities achieving their desired reserve holdings, subject, of course, to the cost considerations they face. These reserve assets are overwhelmingly in the form of foreign exchange, with the U.S. dollar comprising about two-thirds of the total in the last three years.[12] As the reserve-currency countries or areas (United States, Euro area, Japan, and the United Kingdom) have floating exchange rates and face no constraints in increasing their liabilities to foreign official holders, there is essentially no limit to the expansion of reserves in this form. Hence, except for the SDR, the stock of international reserves is fully demand determined.

However, the terms on which countries can increase their stock of reserves vary widely. A country can increase its reserve holdings by intervening to dampen exchange rate appreciation arising from a net capital inflow from abroad or a current account surplus. The former channel is a means of obtaining reserves through inward foreign investment or by private and official borrowing from abroad. This was the case for many emerging market economies in the mid-1990s, when governments borrowed reserves through the issuance of foreign-currency-denominated bonds in international capital markets or through loans from banks. Alternatively, reserves can be obtained through a current account surplus achieved by compressing domestic demand relative to production, or by raising production relative to domestic demand. Reserves can also be obtained in this way as a result of a terms of trade improvement.

Many advanced countries can borrow reserves at interest rates that are only marginally higher than the return on reserve assets. Thus, as long as there is little or no credit risk associated with lending to these countries, they can satisfactorily finance increases in desired reserve holdings by borrowing in international capital markets. Hence they have no need for an SDR allocation to supplement reserves, although they may be willing to hold a portion of their reserves in the form of SDRs for the purpose of portfolio diversification.

However, for emerging market borrowers, the spread between the interest rate on their sovereign bonds and the return on reserve assets is much higher and varies considerably over time. Figure 3 depicts the EMBI sovereign spread (an average across emerging markets) from 1992 to the present. Only twice—most recently in the second half of 1997 before the onset of the Asian crisis—did this spread dip below 400 basis points; for the ten-year period it has averaged around 800 basis points. Moreover, the cost of private market financing to emerging markets fluctuates sharply in response to both conditions in emerging markets themselves—for example, the Mexican and Russian crises—and developments in mature markets. Thus for most emerging market economies, the cost of acquiring and holding international reserves is substantial and subject to considerable uncertainty.

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[12] See IMF *Annual Report* 2002, Appendix I, International Reserves.

The majority of Fund members, however, have little or no access to private capital markets and do not have the option of borrowing foreign exchange reserves.[13] For these countries the primary means of obtaining reserves in the short run is by reducing domestic demand and therefore imports, which imposes a significant cost in terms of foregone consumption and investment.

Figure 3. Emerging Market Bond Spread, 1992-2002 (mid - September)
(basis points)

Sources: JP Morgan Chase emerging market bond index (Brady narrow) sovereign spread.

IV. The Role for the SDR in the Post Bretton Woods System

The above section has argued that notwithstanding any shift to greater flexibility in exchange rates, there is likely to be growing demand to hold larger stocks of reserves on the part of most countries. Certainly this has been the case in the last thirty years, and there are no strong grounds to doubt that this trend will continue in the future. Moreover, volatile capital flows would appear to provide an incentive for at least emerging market economies to hold larger reserve stocks. Should some of this growth in demand for international reserves be met by modest allocations of SDRs?

Our answer to this question is in the affirmative, as we find persuasive the case made by Mussa (1996) for resuming allocations on the basis that SDRs can be created essentially costlessly, whereas reserves acquired by running a current account surplus or by borrowing

[13] Members may also have access to official sources of borrowing and grants, but these resources are typically earmarked for development purposes rather than held as reserves.

in capital markets involve real costs for a country. In the former case, the country gives up resources that can be used for consumption or investment, which at the margin would be valued at the time rate of discount or the rate of return on investment, and would be reflected in the domestic market-determined interest rate. For most advanced, wealthy economies, this interest rate is fairly low, and on average not much above the SDR interest rate. By contrast, for most other countries the domestic interest rate (where the curb rate may well be the only clear indicator of a market rate) tends to lie considerably above the SDR interest rate. In the latter case of sovereign borrowing on international capital markets, the situation is similar: the cost of obtaining liquid claims on reserve currency countries is much lower for advanced countries than for emerging and developing countries, as shown in Figure 3. Of course, many of the latter have no access to international capital markets, so that the shadow borrowing rate is very high indeed. In both cases the net cost of adding to reserves is the excess of the domestic or foreign borrowing rate over the return on reserve assets, which is clearly large and positive for most Fund members.

By contrast, satisfying part of the growing demand for reserves through SDR allocations can be done with essentially zero real resource costs. Recipients of SDR allocations pay the SDR rate of interest (plus a very small assessment to cover the costs of administering the SDR Department) on their cumulative allocations, and receive the same rate of interest on their total SDR holdings. For countries that hold their entire cumulative allocation, the net carrying cost of these reserves is effectively zero. A country may exchange SDRs for other reserve assets, but the expected yield over time (including expected exchange rate changes) would tend to be the same on the SDR as on other reserve assets, given the composition of the SDR interest rate basket. If a country makes net use of its SDR allocation, it pays the SDR interest rate. As this is a market-determined short-term rate, the net user of SDRs compensates the net holder at the SDR interest rate for the real resources acquired in the drawdown of reserves.

Thus there are efficiency gains for the world economy if SDR allocations substitute, at least in part, for reserves that otherwise would be acquired by running a current account surplus or by borrowing on world capital markets. Acquiring reserves through both channels involves a real resource cost, whereas the equivalent amount of additional reserves can be provided through SDR allocations essentially costlessly. Thus there are seigniorage gains to be had by the substitution of an outside reserve asset, the SDR, for reserves in the form of liabilities of reserve currency countries. These gains are similar to the substitution of domestic fiat money for commodity money such as gold.[14] Given that the vast majority of Fund members face high borrowing costs or high real opportunity costs, it seems reasonable

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[14] When the SDR interest rate was originally set at 1.5 percent, it was recognized that there were significant benefits conferred by SDR allocations, which generated proposals to link SDR allocations to aid for developing countries. Now that the SDR interest rate is market determined, attention has shifted to the benefits accruing to countries that face costs of holding reserves substantially above the SDR interest rate.

from the world economy perspective that they benefit from having at least part of their higher reserve holdings be met costlessly through SDR allocations. The resources they would have needed for reserve accumulation could then be used for domestic consumption or investment.

It can be argued, however, that providing reserves at no cost to Fund members would not properly account for the risk of default on the part of those countries that are viewed by the market as poor credit risks.[15] The interest rate spread on market borrowing is generally regarded as the premium that private lenders require as compensation for the risk that borrowers will not fully comply with the terms of the loan contract. The higher the interest rate charged on a new loan or bond issuance, or observed on the secondary market for sovereign bonds, the higher the perceived risk of default.

If the provision of reserves in the form of SDRs left the risk of default unchanged, this would involve a reallocation of the risk between private lenders and the Fund. On the one hand, if net users of SDRs meet their SDR obligations without exception, the Fund membership would face no credit risk. However, private lenders to users of SDRs would now face higher credit risks, reflecting the perception of seniority accorded to obligations under the SDR scheme, which would be reflected in higher spreads charged to market borrowers. In this case there may be no net cost saving to the users of SDRs, as what they gain from low-cost SDRs would be matched by higher spreads. On the other hand, if there is a risk that some Fund members default on their SDR obligations (a risk that could only materialize in the remote event of cancellation of SDRs or liquidation of the SDR Department), the risk would be shared between the Fund membership and the private sector.[16] In this case, the operation of the SDR system provides a subsidy to members facing expensive terms on private market borrowing, with the cost of this subsidy borne at least in part by other Fund members, as private lenders are compensated with higher spreads.

However, a number of considerations suggest that the provision of reserves in the form of SDRs would in fact reduce credit risk. Allocations of SDRs make more external resources available to a country, enabling it to weather potential balance of payments crises without undue reliance on import compression or the imposition of trade and other restrictions. More specifically, the substitution of SDRs for borrowed reserves would save the country interest charges, which would make it a better credit risk from the point of view of private credit markets, and its credit spread would decline.

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[15] For a discussion of this point, see IMF (2001).

[16] There are currently six members in arrears on their SDR charges: Afghanistan, the Democratic Republic of Congo, Iraq, Liberia, Somalia, and Sudan (amounting to SDR 104 million or 0.5 percent of allocations). Such arrears do not give rise to an interest risk for net holders because the Fund is required under Article XX, Section 1 to pay SDR holders the full amount of SDR interest; this is achieved by issuing SDRs to meet any shortfall, which are cancelled as overdue SDR charges are settled.

More generally, reserves supplied by SDR allocations would tend to reduce systemic risk. This is the case because they are a permanent addition to the world's stock of reserves, except in the unlikely event of a decision (with an 85 percent majority) by the Fund to cancel outstanding SDRs. By contrast, reserves obtained via borrowing in the capital market may be withdrawn under inauspicious circumstances. Such reserves need to be periodically refinanced, as otherwise existing reserve assets will need to be used to pay down maturing debts. Doubts on the part of foreign creditors about the desirability of refinancing are likely to arise when a country is facing balance of payments difficulties and in need of more, not less reserves. In a general crisis situation, several countries would simultaneously face rapidly rising costs of refinancing, which would exacerbate their reserve positions, and lead to possibly self-fulfilling runs on their currencies. In particular, where contagion is present, the terms and conditions for private market borrowing may fluctuate sharply and not be reflective of the country's own underlying payments situation. Indeed, in the Asian, Russian, and Latin American crises, market sentiment overreacted to negative news in individual countries, adversely affecting the ability of other countries to refinance their debt.[17] Borrowed reserves thus suffer from being less reliable and predictable sources of reserves than SDRs, and their cost increases in times of crises, whereas the SDR interest rate is largely unaffected, and may even decline. From this perspective, therefore, borrowed reserves entail more risk for the international monetary system than owned reserves in the form of SDRs, which can be seen as enhancing the "quality" of the stock of international reserves.

Notwithstanding the efficiency gains from using low-cost SDRs to satisfy the growth in reserve demand, as well as the systemic benefits from substituting owned reserves in the form of SDRs for borrowed reserves, objections to SDR allocations arise on the grounds that these additional assets will be spent rather than held, on average, in the form of reserves. This view seems to be based in part on the view that developing countries are too poor to hold significant or adequate reserves, and that they are prone to "misuse" them to satisfy short-run consumption or investment needs rather than hold them and realize the return from having a stock of liquid assets to buffer shocks to their economy. A number of considerations suggest that this argument is incorrect. First, most countries in fact add to their reserves in rough proportion to the scale of the factors generating payments imbalances. Given this expansion in the demand for reserves, there would be no reason to expect that a modest increase in supply in the form of SDRs would lead countries to change their reserve policies and expand their absorption of goods and services.

Second, microeconomic factors also support the case that SDRs allocated to satisfy part of growing reserve demand will be held by most countries for reserves, rather than spent. Theoretical considerations suggest that countries' holdings of reserves will, on average, reflect the marginal costs and benefits of keeping some foreign assets that can be used to

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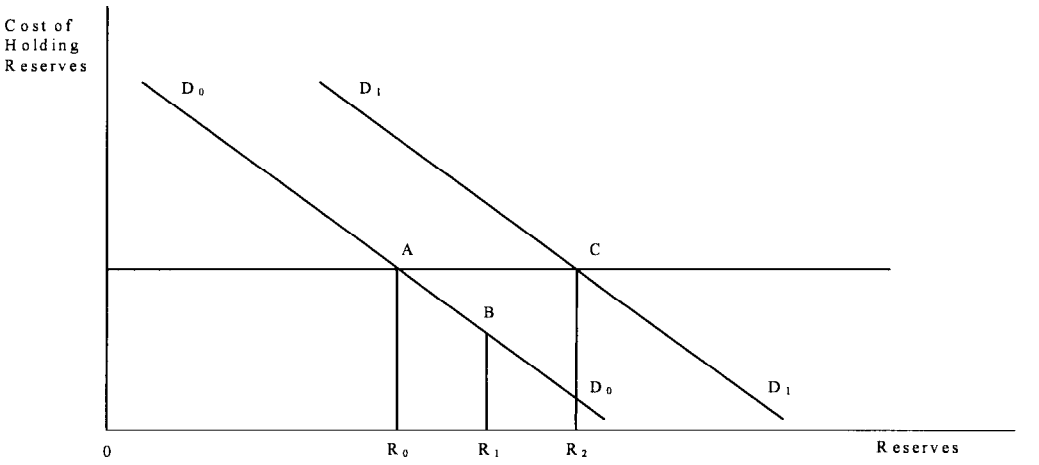
[17] Recognizing that members are subject to contagion, the Fund designed Contingent Credit Lines in an attempt to help insulate countries following appropriate policies from changes in market sentiment.

buffer their economies from the effects of shocks that may arise domestically or abroad. As the scale of such shocks increases over time, the marginal benefit of additional stocks will also rise, leading to an increase in average reserve holdings, unless offset by rising marginal costs of holding reserves. SDR allocations lower the average cost of reserve holdings, but unless they are so large as to dominate the need for reserves from other sources, not the marginal cost. Of course, if SDR allocations were so large that they more than matched the secular growth in demand, there would be an incentive for countries to spend the excess. This increased spending would lead to higher prices and the addition to nominal reserves would not result in increased real reserves (see Fleming 1970). However, discussions of SDR allocations by the Executive Board have always been in terms of supplements to the growth in other reserve assets, i.e., an expansion in the supply in SDRs that would be a fraction of the total increase in demand for reserves.

This argument that SDRs allocated to meet part of the growth in the demand for reserves will not lead to a rise in spending is illustrated in Figure 4. The downward-sloping line shows the demand for reserves as a function of the net marginal cost of holding reserves, given on the vertical axis, which is equal to the cost of borrowed reserves minus the rate of return earned on the stock of reserves. This net cost of holding reserves varies across countries, as it depends on the perceived credit risk of lenders to individual countries. The horizontal axis measures *total* reserves, i.e., dollars, euros, etc., plus IMF-related reserve assets, including in particular SDRs. The demand for reserves is downward sloping, as it is negatively related to the net cost of holding reserves. Over time it shifts out and to the right, for example, from D_0D_0 to D_1D_1, in response to increases in the scale of international transactions which generates larger balance of payments reserve financing needs.

Consider first the static case where SDRs are allocated in spite of the fact that there is no outward shift in the demand for reserves, so that the demand curve remains at D_0D_0. The initial equilibrium is at A with reserves at R_0. An allocation of SDRs equal to $R_1–R_0$, increases the total stock of reserves to R_1, moving the country to point B on the demand curve. Actual reserves holdings are now above the desired level, which remains at A, assuming there is no change in the marginal cost of holding reserves. The country would then spend the allocation to reduce its average reserve holdings back to point A. If SDRs are distributed over time to Fund members to meet in full the growth in demand for reserves, the demand schedule shifts from D_0D_0 to D_1D_1, and SDR allocations equal $R_2–R_0$. The new equilibrium is at point C.

Figure 4. Demand for Reserves



In fact, however, proposals for SDR allocations have been designed to meet only a fraction of the increase in demand for reserves. This can be illustrated in Figure 4 as R_1–R_0 of the growth in demand being satisfied by SDR allocation, and $R_2 - R_1$ being met by the acquisition of reserve currencies. When a country receives SDR allocations at a rate below the increase in its demand for reserves, it has no incentive to increase its spending, except perhaps by the amount saved by the interest differential between allocated SDRs and reserves borrowed in the market.[18]

This saving, which accrues to the poorer members of the Fund, is part of the rationale for the resumption of regular allocations of SDRs—the other part being the improved stability of the system if a larger proportion of reserves is owned and a smaller proportion borrowed. A comment is needed on the probable size of this saving. Mussa (1996, p. 78) has calculated that it might amount to about SDR 1 billion per year for an allocation of SDR 36 billion (which was the amount suggested by the Managing Director at that time). An annual benefit of that order of magnitude accruing, roughly, to the nonindustrial members of the

[18] Of course, there will always be some countries for which the opportunity cost of holding reserves is so high that even modest SDR allocations will exceed the secular increase in their demand for reserves (which may be close to zero), inducing them to spend most or all of any allocations they receive. For example, of all members that received allocations in the 1969-71 period, 10 held smaller total reserves in 1989 than in 1969. Six of these 10 countries were in arrears to the Fund in 1989; countries with overdue obligations to the Fund will not receive their allocations under the special one-time allocation agreed by the Board of Governors in 1997.

Fund would not be impressive in comparison to the annual flow of foreign aid, even if one allows for the fact that the benefit would be costless to the industrial countries.

It would be fair to conclude, therefore, that only the resumption of *annual* allocations, as originally envisaged as the norm in the first amendment of the Articles of Agreement, would be a worthwhile step for the Fund to adopt. While that step would produce only a small benefit in the first year, the annual benefit would increase over time apace with the outstanding stock of SDRs. Even if the countries that earned this rising amount of benefits from the operation of the SDR system decided to spend all of it in additional imports, the impact on world demand ten or twenty years out (less than SDR 10 or 20 billion a year) would still be minimal even in the eyes of the sternest guardians against the risk of inflation.

Once it is recognized that the great majority of developing countries have demonstrated their willingness to incur the cost of a secular increase in their reserves, the observation that many of them hold SDRs in amounts well below their allocations is irrelevant from the point of view of their policies of aggregate demand. A member is not obliged, or even "expected," to hold any particular proportion of the amount of SDRs allocated to it. Its obligations to hold or acquire SDRs do not extend beyond those spelled out in the Articles, and these obligations were designed to ensure the efficient operation of the SDR system, not to impose on the member a particular policy behavior with respect to its reserves. These obligations included, first, the obligation to reconstitute after large use and, second, the obligation to buy SDRs under "designation." Neither of these obligations is in force any longer: the reconstitution obligation was abolished in 1978 and designation has become inoperative in as much as all exchanges of SDRs for currencies among members are nowadays (and have been for many years) conducted in the form of voluntary transactions. Accordingly, members are free to hold their reserves in SDRs and other assets according to their portfolio preferences. The small holdings of SDRs compared to allocations of many developing countries, and some industrial countries (United Kingdom, France, Italy, Australia) as well, is evidence of these countries' portfolio preferences. Many poor developing countries no doubt desire to hold reserve assets with a higher yield than SDRs.

The allocation of SDRs vs. the provision of conditional Fund credit

Starting from the earliest discussions of what ultimately became the SDR Department in the Fund, the question has been raised whether it might not be preferable to resolve any occurrence of a shortage of international liquidity by the Fund providing more conditional credit rather than distributing new reserve assets without attaching any policy conditionality.[19] When countries have to meet a balance of payments deficit of a more than transitory nature, they would do well to take some steps to adjust policy at an early stage, and conditional credit would promote such action. Moreover, for countries that do not have easy

[19] For an extensive discussion, see Wijnholds (1977), chapters 8 and 12.

access to capital markets, the episodic use of Fund credit is significantly cheaper than holding reserves that immobilize valuable capital resources.

These are weighty arguments in favor of a careful balance between the provision of the two types of liquidity: reserves and conditional credit. But the conclusion was reached early in the debate that there is only limited room for substitution between the two. As stated in the Fund's 1965 *Annual Report*, "ideally, countries' need for additional liquidity could be met by adequate increases in conditional liquidity. In practice, however, countries do not appear to treat conditional and unconditional liquidity as interchangeable." Therefore any attempt to meet an increasing need for reserves by the provision of conditional liquidity might induce countries to adopt "balance of payments policies which, from a broad international point of view, would have to be regarded as undesirable" (p. 15). The same view was expressed by the Group of Ten, where the negotiations about contingent liquidity creation proceeded in parallel with those in the Fund.[20]

If at that time the Fund accepted, perhaps somewhat grudgingly, the need for countries to hold substantial reserves of their own, it has since made the holding of reserves part of its standard conditionality. It remains true, however, that reserves are an expensive investment, and few developing members hold reserves that are large enough to enable to them to handle serious balance of payments problems without seeking credit from the Fund, and thus becoming subject to the Fund's conditionality, whether they receive annual SDR allocations or not. As such allocations would in any event be a much smaller percentage of quotas than a member's access to Fund credit, which under current access policies can reach 100 percent of quota per year, the risk that across-the-board SDR allocations would detract from Fund conditionality can be considered minimal.

V. Concluding Remarks

In the preceding section, we presented the case for the regular annual allocation of relatively moderate amounts of SDRs. That case is based on the benefits, in terms of (i) the interest costs of reserves that would accrue to the large majority of members that do not have assured access, or only very costly access, to capital markets and (ii) the enhanced strength of the international financial system as a whole if a larger part of the world's reserves is owned rather than borrowed.

It is obvious that that case is difficult to reconcile with the original objective of the SDR mechanism, which was to ensure that the smooth development of the international economic and financial system would not be marred by either an insufficient, or an excessive, supply of international liquidity. However, as shown in Section II, those concerns

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[20] Group of Ten, Communiqué of Ministers and Governors and Report of Deputies (1966), para. 29.

about the global supply of reserves, which preoccupied international economists for the larger part of the previous century, have evaporated with the fundamental changes in the system brought about by the demise of the par value system and its succession by a world of floating exchange rates among the major economic areas.

If—and we realize that this is a major if—the membership of the Fund accepts the desirability of resuming the regular allocation of SDRs, it will have to come to terms with the fact that the provisions of Article XVIII no longer provide serviceable guidance for the allocation and cancellation of SDRs, and a choice will have to be made whether to do this (i) without an amendment of the Articles or (ii) by amendment.

(i) The no-amendment approach is obviously the simplest. It can be justified if the "long-term global need" is read as the need of individual countries to increase their reserves as the scale of their balances of payments increase. This has been the general approach adopted by the staff ever since the second SDR allocation. With recognition of the fact that the concept of a quantitative global need for reserves—as distinguished from the quantitative needs of individual member countries—no longer has a meaning in the present system, that concept could be disregarded as a consideration for the allocation of SDRs. The 1978 decision to allocate in the second basic period in circumstances not too dissimilar from the current situation reflected at least in part this approach (Ahluwalia 1996, p. 93).[21]

(ii) An amendment to Article XVIII would provide a more radical, but also a more difficult solution. Such an amendment, in addition to eliminating the concept of global need, could at the same time remove the overabundance of safeguards prescribed in the present Article, in recognition of the fact that experience has proved that the single safeguard of a high qualified majority suffices, as it does with respect to quota increases. The proposed fourth Amendment of the Articles provides an example of an SDR allocation considered desirable by the membership but that, in the opinion of some members, did not meet the test of a global need required by Article XVIII.

We briefly mention these options for the Fund to resume allocations in the present international financial structure. Any further discussion of these options would, however,

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[21] It may be recalled in this connection that, in the 1960s and 1970s, when another important provision of the Articles had become meaningless by a change in the system, the Fund also resolved the resulting problem by ignoring it. Under the original Articles, a member purchasing a currency from the Fund had to represent that that currency was 'currently needed for making *in that currency* payments...(Art. V, Section 3(a)(i), emphasis added). That provision lost its meaning when, in 1961, the Fund adopted the policy to use in transactions a wide range of currencies that were, de facto or de jure, convertible, and to prescribe the currencies that members should draw. For the next 17 years, until the provision was eliminated in the second Amendment, it was simply ignored.

appear premature until a consensus had been reached on the core finding of this paper that such allocations would be desirable.

Given the very limited scale on which SDR allocations are contemplated, one can only be skeptical about both the rationale and the feasibility of any of the proposals, such as those mentioned in the Introduction, for a massive injection of SDRs in the event of some liquidity crisis that the Fund could not handle from its quota resources plus the existing NAB.

In the event of a worldwide liquidity crisis, such as occurred in the autumn of 1998, a large part of the financial stringency affects the financial markets in the main reserve centers. The central banks in these centers, the Federal Reserve and the European Central Bank, can handle that problem by open market purchases. Peripheral countries, affected by domestic problems or by contagion, may require massive support from the IMF, to an aggregate amount that could exceed the Fund's resources from quotas and the NAB. But establishing in advance the authority for the Fund to create massive amounts of SDRs in those circumstances (or as suggested by the Task Force of the Council on Foreign Relations, to use previously stockpiled SDRs) would fly in the face of the agreement, reached only a few years ago, of an NAB of no more than SDR 34 billion, and the resistance of the major industrial countries to even modest regular allocations of SDRs. In a truly severe crisis, it is far from obvious that SDRs—which cannot be used by the recipients for intervention in the markets—would be more suitable than loans of reserve currencies to the Fund from key creditor countries (perhaps as an extension of the NAB) or directly to the deficit countries.

A more suitable way for the Fund to prepare itself for a liquidity crisis of extreme severity would be to envisage it borrowing dollars from the Fed and/or euros from the ECB (and perhaps yen from the Bank of Japan). Any such lending to the Fund beyond the limits of the NAB would of course be subject to an ad hoc decision by the Fund to borrow and an ad hoc agreement by the central bank involved to lend. The possibility of the lender's veto would surround the possibility of Fund action in these circumstances with the required constructive ambiguity in order to guard against moral hazard. Note that the same ambiguity could be expected from any solution dependent on massive use of SDRs; any provision for an arrangement to that effect, if at all possible, would surely be subject to a very large voting majority.

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