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Exchange Rate Flexibility and the International Liquidity "Problem"

by G. Zis, Salford*

Contrary to the expectations of those who advocated flexible exchange rates prior to 1973, Williamson, in his study on exchange rate flexibility and reserve use, presented data which suggested "the paradoxical conclusion that reserve use actually increased following the adoption of floating"¹. As this finding was based on developments immediately after the final collapse of the Bretton Woods system in March 1973, there arises the question of whether it remains consistent with subsequent experience. Our author argues that the international liquidity "problem" has indeed not been resolved during the last decade and, proceeding from this conclusion, assesses its current implications.

The Bellagio Group of economists in their analysis of the growing tensions in the Bretton Woods system observed that "if the adjustment mechanism works fast, either automatically or speeded by policy measures, the need for liquidity is low. If the adjustment mechanism or adjustment measures work slowly, the need for liquidity is high"². Friedman in his classic statement of the case for flexible exchange rates had maintained that in response to a disturbance, changes in the exchange rate will "occur rapidly, automatically and continuously and so tend to produce corrective movements before tensions can accumulate and a crisis develop"³. Therefore, fully flexible exchange rates, by ensuring instantaneous adjustment, would eliminate the need for international liquidity.

No advocate of flexible exchange rates, however, envisaged an international monetary system in which governments never intervened in the foreign exchange market. For example Sohmen, who provided one of the principal statements of the case for flexible exchange rates⁴, expressed the wish in 1976 to "stress that the imaginary economist who would have opposed official exchange market intervention under any and all circumstances is . . . a mere straw man"⁵. The "band" and "crawling peg" proposals, widely discussed in the 1960s as a basis for the reform of the Bretton Woods system, provide evidence of the accuracy of Sohmen's observation⁶. Indeed, even Friedman did not rule out completely government intervention⁷, while Johnson

advocated exchange rate flexibility among currency blocs rather than among all countries⁸. That is, no economist has ever argued for a system of entirely unmanaged flexibility of exchange rates.

Deficiencies of the Bretton Woods System

By the end of the 1960s the overwhelming majority of economists had become convinced that a greater degree of exchange rate flexibility than that associated with the Bretton Woods system was desirable. That system was condemned on the grounds that it had failed to promote effective and speedy adjustment to balance of payments disequilibria and, consequently, had generated the international liquidity problem. Countries were reluctant to sacrifice their domestic economic

¹ J. Williamson: Exchange-rate Flexibility and Reserve Use, in: J. Herin, A. Lindbeck, J. Myhrman (eds.): Flexible Exchange Rates and Stabilization Policy, Macmillan, 1977, p. 198.

² See F. Machlup, B. G. Malkiel (eds.): International Monetary Arrangements: The Problem of Choice, Princeton University, International Finance Section, 1964, p. 36.

³ M. Friedman: The Case for Flexible Exchange Rates, in: Essays in Positive Economics, The University of Chicago Press, 1953, p. 163.

⁴ E. Sohmen: Flexible Exchange Rates, Revised Edition, The University of Chicago Press, 1969.

⁵ E. Sohmen: A Comment, in: J. S. Dreyer, G. Haberler, T. D. Willett (eds.): Exchange Rate Flexibility, American Enterprise Institute for Public Policy Research, 1978, p. 255.

⁶ See, for example, the studies in G. N. Haim (ed.): Approaches to Greater Flexibility of Exchange Rates: The Bürgenstock Papers, Princeton University Press, 1970.

⁷ M. Friedman, op. cit.

⁸ H. G. Johnson: The Case for Flexible Exchange Rates, 1969, in: Further Essays in Monetary Economics, Allen and Unwin, 1972.

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objectives for the sake of maintaining balance of payments equilibrium. Reserves would be used to delay or even frustrate the adjustment process rather than to ensure the smooth and rapid elimination of balance of payments deficits or surpluses. Deficit countries demanded an ever-increasing volume of reserves so as to avoid the introduction of corrective measures. Surplus countries attempted to sterilise the increments to their reserve holdings in the hope of preventing their respective rates of inflation from accelerating. In addition, the growth of international liquidity followed an unpredictable path, determined primarily by US monetary policy relative to money supply growth rates in the rest of the world. The US balance of payments deficit undermined confidence in the dollar and, therefore, in the viability of the system, while other countries' deficits generated demands for further increases in international liquidity.

Greater exchange rate flexibility was advocated as a means of ensuring more rapid and effective adjustment as well as a substitute for increases in international reserves. Only Harrod disagreed with this proposition and argued that countries' monetary authorities would "require *larger* reserves to maintain orderly conditions in a flexible exchange market than they do to preserve a fixed rate. Therefore, *a flexible rate should not be regarded as an alternative to plans for increasing reserves*"⁹. This view, however, was considered as somewhat eccentric. It was generally believed that there existed a trade-off between exchange rate flexibility and the need for reserves. When Williamson failed to identify it, he was led to describe his conclusion as "paradoxical".

Reserve Use 1973-1981

Table 1 presents data on reserve use for the years 1973-1981. In their computation Williamson's definition of reserve use was employed¹⁰. That is, reserve use is defined as the monthly reserve change, divided by an annual rate of trade flow, both measured in dollars, and multiplied by 100. For purposes of comparison, Williamson's data for the pegged rate period, available for five of the seven countries, are reproduced.

Reserve use during the period March 1973-1981 was the same as the average for the pegged rate period in the case of Canada and Switzerland, higher for Italy and the UK and lower only for Japan. No trend is discernible; reserve use fluctuates from year to year, often quite sharply. For example, reserve use by Germany was halved between 1979 and 1980, while it more than doubled in the UK between 1976 and 1977. Further, it is not possible to identify any systematic pattern in

Table 1
Reserve Use

	Canada	France	Germany	Italy	Japan	Switzerland	UK
Pegged rate period	0.53	—	—	0.58	1.65	4.92	0.39
1973	0.36	1.05	2.36	1.18	1.91	4.50	0.63
1974	0.28	0.24	0.70	1.88	0.59	4.87	0.69
1975	0.28	0.69	0.66	0.90	0.43	3.86	0.38
1976	0.63	0.51	0.86	1.06	0.51	5.87	1.12
1977	0.47	0.14	0.62	1.18	0.73	6.05	2.35
1978	0.92	0.45	1.17	1.02	1.31	4.78	0.70
1979	0.63	0.61	1.47	1.14	1.24	4.09	0.61
1980	0.51	0.81	0.70	1.33	0.61	4.50	0.45
1981	0.70	0.87	0.81	1.22	0.28	5.35	0.58
Average: March 1973-1981	0.53	0.58	0.93	1.21	0.80	4.89	0.85

Sources: For pegged rate period, Williamson, op. cit.; OECD: Direction of Trade; IMF: International Financial Statistics.

changes in reserve use across countries when any pair of years is considered. If we compare, say, 1979 and 1980, reserve use decreased in four countries and increased in three.

It is of interest to note that reserve use in 1974, the year when countries had to bear the major part of the burden of the first oil price rise, was below the average for the period March 1973-1981 in all countries except Italy. Reserve use in 1974 was lower than in 1973 in four of the countries with only Italy showing a large increase in the aftermath of the oil price rise.

It is, therefore, evident that exchange rate flexibility has not had the expected effects on reserve use. Extending the period to 1981 simply confirms Williamson's original finding. The data in Table 1 are consistent with Frenkel's comparison of the demand for reserves under the Bretton Woods system and post-March 1973 managed exchange rate flexibility¹¹. He identified a structural change by the end of 1972 which, however, was not "as large as might have been expected"¹². This conclusion was based on the performance of the demand for reserves function, estimated for the period 1963-1972, when used to forecast reserves demand for the years 1973-1975. In brief, then, there is no evidence of a trade-off between exchange rate flexibility and reserve use.

⁹ R. Harrod: A Statement, in: F. Machlup, B. G. Malkiel (eds.), op. cit., p. 114, italics in original.

¹⁰ J. Williamson, op. cit.

¹¹ J. A. Frenkel: International Reserves: Pegged Exchange Rates and Managed Float, in: K. Brunner, A. H. Meltzer (eds.): Public Policies in Open Economies, Carnegie-Rochester Conference Series on Public Policy, Volume 9.

¹² Ibid., p. 128.

The continuing use of reserves on a scale not dissimilar to that of the pre-1973 years raises the question of whether there currently exists an international liquidity problem. If there is such a problem, what are its principal features and how does it differ, if at all, from that of the Bretton Woods system?

The Liquidity "Problem"

Triffin's analysis of the inherent instability of the Bretton Woods system set the framework within which the liquidity "problem" was discussed during the 1960s¹³. If US deficits were to be the principal source of increases in international liquidity, confidence in the dollar would eventually decline and countries would become unwilling to accumulate ever-growing dollar balances. If, alternatively, the US were to follow such policies as to ensure balance of payments equilibrium, then there would gradually emerge a shortage of international liquidity which would have undesirable consequences for the growth of international trade. It was, therefore, argued that if the world's economic resources were to be fully and efficiently utilised, within a smoothly functioning international monetary system, it was necessary that international liquidity grew at a steady and predictable rate. Since this could not be achieved through one country's balance of payments deficits or through an increase in the price of gold, the proposal to create a new international reserve asset received increasing support. In 1967 the SDR scheme was agreed upon. The world economy thenceforth had, in principle, the ability to create international liquidity in a planned and deliberate manner, ensuring that no shortage would arise.

The liquidity problem, then, had two dimensions. First, there was the question of whether the existing volume of reserves was adequate and what would be their desired rate of growth. Second, there were the issues relating to the composition of reserves, reflecting

the potentially destabilising effects of shifts in the demands for the various components of international liquidity. The SDR scheme, though it could ensure the "adequacy" of world reserves, could only aggravate the compositional aspect of the liquidity problem as it was not accompanied by any agreement providing for the gradual elimination of the key currency role of the dollar and sterling. Indeed, the 1968 Basle agreement, guaranteeing the dollar value of official sterling balances, was in conflict with the expressed desire by the UK authorities to gradually phase out the sterling component of international liquidity¹⁴.

The establishment of the SDR scheme reflected a preoccupation with the "adequacy" dimension of the international liquidity problem, at the expense of the "composition" aspect. The question, therefore, arises of whether this order of priorities was justifiable.

The "Adequacy" of Liquidity

Under a system of fixed exchange rates the function of reserves is to allow countries to equilibrate the demand for and supply of their respective currencies in the exchange market. The larger the excess demand for or supply of a currency in the exchange market, the larger will be a country's acquisition or loss of reserves respectively. Therefore, it is the size of payments imbalances that determines the extent to which a country's monetary authorities have to purchase or sell the domestic currency. Balance of payments deficits or surpluses may arise as a result of random disturbances. As these will tend to cancel out over time, they cannot provide a basis for the proposition that international liquidity must grow at a steady rate, somehow

¹³ R. Triffin: *Gold and the Dollar Crisis*, Yale University Press, 1960.

¹⁴ See, for example, G. Zis: *The Sterling Problem: Retrospect and Prospect*, in: *Applied Economics*, December 1978.

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determined, in order to prevent the emergence of a shortage.

Balance of payments disequilibria, abstracting from random disturbances, reflect the degree to which countries' economic policies diverge. The more divergent national fiscal and monetary policies are, the larger will be the balance of payments deficits and surpluses. There is no reason why, as countries' economies grow and trade expands, economic policies should become more divergent. That is, the argument that a smoothly functioning fixed exchange rates system requires a mechanism ensuring the steady growth of international liquidity is ill-founded. If this proposition is acceptable, then it logically follows that reserve "adequacy" cannot be defined independently of the degree of convergence of national economic policies. Therefore, at any given moment international liquidity cannot be judged to be "inadequate" in any absolute sense. A call for an increase in world reserves simply implies that countries' desire to pursue more divergent policies in the future. In other words, an international monetary system which provides for the continuous increase in international liquidity will in fact encourage countries to pursue increasingly divergent policies with the ensuing ever-growing payments imbalances eventually leading to the collapse of the system. Thus, one cannot but agree with Sohmen's conclusion "that there cannot be a quantifiable need for international liquidity. Whatever need arises is always attributable to the particular policies followed by one's own government and foreign governments and central banks"¹⁵.

The Composition of Liquidity

The efficiency of a fixed exchange rates system, though it does not depend on the volume of reserves *per se*, will be affected by the composition of international liquidity. Consider the Bretton Woods system and assume that countries pursued convergent but inflationary domestic policies. In this case, though balance of payments disequilibria would not be large, reflecting primarily random disturbances, the relative price of gold would be declining. Consequently, there would emerge an excess demand for it as a result of substitution effects in consumption and production. Inevitably, at some stage, speculative pressures would develop which eventually would force the devaluation of currencies relative to gold. Therefore, the viability of an international monetary system, in which gold features as a reserve asset, requires not only that countries

pursue convergent policies but also that these policies are consistent with price stability.

Next assume that a reserve currency country pursues expansionary policies under a Bretton Woods type of system and that monetary policies in the rest of the world are such as to ensure world price stability. Let the reserve currency country be the UK. Its relatively expansionary policies will result in the emergence of a balance of payments deficit. In the rest of the world the ratio of sterling balances to other reserve currency holdings will rise. Eventually, UK balance of payments deficits will induce other countries to attempt to reduce the sterling component of their reserves. The demand for sterling, therefore, will fall while that for other reserve currencies will rise. Consequently, the UK balance of payments deficit will grow, even if there is no policy change either in the UK or in any other country. It is arguable that it was UK monetary policies, relative to those pursued in the US, which encouraged sterling area countries to decrease the sterling component and increase the dollar component of their reserves during the 1950s and early 1960s.

It is evident that even if there were only one reserve currency a system like the Bretton Woods would not be durable unless the ratio of dollar balances to gold holdings remained constant over time, or changes in it reflected changes in policies in the rest of the world rather than in the US.

If, alternatively, we were to assume a system of managed flexibility, similar to that in operation since 1973, the composition problem is as important as ever. The adequacy problem, on the other hand, becomes even more meaningless and irrelevant.

In brief, then, the debate prior to 1973 on whether or not the volume of international liquidity was "adequate" was ill-founded and concealed the importance of the implications for the survival of the Bretton Woods system of the composition problem. It is not surprising that the SDR scheme did not prevent the collapse of the international monetary system in 1973.

Significant Changes

World reserves increased between 1952 and 1969 from 49.3 billions of SDRs to SDR 78.7 billion. In the next three years, however, they nearly doubled, rising to SDR 146.8 billion. Almost the entire increase during the years 1970-1972 can be accounted for by the rise in the foreign exchange component of international liquidity. Between 1969 and 1972 holdings of foreign exchange nearly trebled, rising from SDR 33.0 billion to SDR 96.2 billion¹⁶.

¹⁵ E. Sohmen, 1969, op. cit., p. 219.

¹⁶ Figures from International Financial Statistics, May 1977.

Table 2
Official Holdings of Reserve Assets
(billions of SDRs)

	1973	1976	1977	1978	1979	1980	1981
IMF-related assets	15.0	26.4	26.2	22.9	24.3	28.6	37.7
Foreign Exchange	102.7	161.7	203.6	223.8	249.3	296.5	304.7
Total	117.7	188.1	229.8	246.7	273.6	325.1	342.4
Gold (London market price)	95.0	117.7	140.1	179.6	366.7	440.3	324.6

Source: IMF: Annual Report 1982, Table 16, p. 62.

Table 3
Share of National Currencies of Official Holdings of Foreign Exchange

	1973	1975	1977	1979	1981
Dollar	78.4	79.4	79.4	62.4	58.4
Sterling	6.5	3.9	1.6	1.7	2.0
Deutsche Mark	5.5	6.3	8.3	10.4	11.2
French Franc	0.9	1.2	1.0	0.9	1.0
Swiss Franc	1.1	1.6	2.0	2.0	2.5
Guilder	0.3	0.6	0.4	0.7	0.9
Yen	—	0.5	1.2	2.6	3.6
ECU	—	—	—	13.9	15.4
Other	7.3	6.5	6.2	5.4	5.0

Source: IMF: Annual Report 1982, Table 18, p. 65.

Table 2 presents data on all countries' official holdings of reserve assets at the end of selected years in the period 1973-1981. The most striking feature of these figures is the sharp increase in foreign exchange reserves, which implies that between 1969 and 1981 this component of international liquidity increased by nearly ten times. That is, international liquidity did not cease to grow after the breakdown of the Bretton Woods system. Furthermore, as the different components increased at different rates the composition of world reserves has undergone significant changes. Equally important have been the changes in the composition of the foreign exchange component of international liquidity during the last decade. Table 3 presents data on the shares of national currencies in official holdings of foreign exchange. Between 1973 and 1981 the share of dollar holdings declined from 78.4 % to 58.4 %, while that of the deutsche mark doubled, rising to 11.2 %. It is also interesting to note the fall in sterling's share after the Basle guarantee scheme was phased out at the end of 1974 and the steadily rising importance of the yen as a reserve currency.

Since March 1973 the "adequacy" dimension of the liquidity "problem" has become entirely meaningless. Any country that wishes, for example, to increase its reserves, can simply purchase foreign exchange and let its currency depreciate. It is, therefore, somewhat surprising that the IMF continues to discuss the adequacy of international liquidity, while its conclusion "that the ample availability of international credit to many countries has generally ensured adequate growth of the overall stock of reserves"¹⁷ is hardly reassuring with respect to the ability of the current international monetary arrangements to develop into a smoothly functioning system.

The rapid growth of international liquidity since 1969, however, has been denounced as a "scandal" by Triffin because of its potential inflationary implications¹⁸. Accepting the proposition that inflation is a monetary phenomenon, it is not, however, necessarily the case that there will exist a relationship between the growth rates of international liquidity and money supply growth rates and, therefore, between the former and the rate of inflation.

Implications

Under the Bretton Woods system inflation was an international phenomenon determined by the rate of growth of the world money supply. The latter, in turn, was determined by countries' rates of domestic credit expansion and increases in international liquidity. US balance of payments deficits, as already noted, were the principal source of growth in world reserves. If changes in international liquidity, induced by the relative monetary policies of the US, were exactly offset by changes in other countries' rates of domestic credit expansion, then the world money supply growth rate would not alter and, therefore, the world rate of inflation would be unchanged. That is, we should not expect to observe a systematic relationship between reserve growth and world inflation. Parkin, for example, found no correlation between liquidity growth and inflation rates during the 1960s¹⁹. It follows, however, that the absence of such a relationship reflected the increasing divergence of monetary policies between the US and the rest of the world which, of course, ultimately led to the breakdown of the Bretton Woods system. Further, as the inflationary pressures emanating from US money supply growth rates were not offset by other countries'

¹⁷ IMF: Annual Report 1981, p. 75.

¹⁸ R. Triffin: *The World Monetary Scandal: Sources ... and Cures?*, in: *Economic Notes*, No. 2, 1982.

¹⁹ M. Parkin: *International Liquidity and World Inflation*, in: M. Parkin, G. Zis (eds.): *Inflation in Open Economies*, Manchester University Press, 1976.

monetary policies, given that national authorities were increasingly unwilling to accumulate further dollar balances, inflation rates accelerated throughout the world.

The exchange rate flexibility of the last decade implies that the concept of world money supply and, consequently, world inflation rate, have ceased to have any operational meaning. There are as many world inflation rates as national currencies. That is, a country's inflation rate is now principally determined by its own rate of domestic credit expansion. This is not to deny that external influences continue to play a role. All that it argues is that there does not exist a world rate of inflation which can potentially be affected by changes in the growth of international liquidity. For example, a country may increase its reserves without affecting the growth of its monetary base or, alternatively, it may adopt a highly inflationary monetary policy while keeping its reserves unchanged.

The above arguments do not imply that Triffin's concern over the growth of international liquidity is misplaced. What is maintained is that there does not exist a necessary relationship between a country's reserves accumulation and rate of inflation, a proposition which is, of course, consistent with the diagnosis that the extraordinary increase in international liquidity during the period 1970-1972 did have strong inflationary effects.

The rapid growth of world reserves during the last decade is the consequence of divergent national monetary policies. It is the failure of the major countries to agree upon a greater degree of policy coordination which presents a threat to the cohesion of the world economy. The Jamaica agreement simply legitimised the exchange rate practices followed after the collapse of the Bretton Woods system. It did not amount to even a minimal reform of the international monetary system. Thus exchange rate changes continue to be large and unpredictable while world reserves continue to grow in a haphazard manner. Exchange rate fluctuations since 1973 have been magnified by switches in countries' holdings of foreign exchange. Currencies, such as the mark and yen, whose supply growth rates are more predictable and under greater control, have emerged as important international reserve assets. If this trend persists, Germany and Japan will be confronted with increasing difficulties in implementing their monetary policies. Shifts in the demand for marks, for example, will induce, other things equal, unpredictable exchange rate changes which, in turn, will affect both real and nominal variables in Germany.

The perception of the international liquidity "problem" in the 1960s was largely ill-founded. Adequacy of reserves, which received most attention, cannot be defined independently of the convergence of national policies. It was the composition aspect which was of crucial importance for the viability of the Bretton Woods system. The collapse of the latter and the subsequent exchange rate flexibility has not eliminated the liquidity problem. There is no evidence of a trade-off between exchange rate flexibility and reserve use. Exchange rates have proved to be more volatile and unpredictable than even critics of exchange rate flexibility had predicted before 1973. Countries have, therefore, been forced to engage in large exchange market interventions in an attempt to promote orderly conditions. At the same time the pursuit of relatively predictable policies, via the adoption of monetary targets, but without a co-ordination of policies across countries has resulted in the continuing growth of international liquidity. It is no longer maintained that a "shortage" of reserves may somehow arise. This, however, in no way can be interpreted as implying that the current international monetary arrangements are in any sense an improvement on those in force prior to 1973. The composition problem has become more acute during the last decade than it was under the Bretton Woods system.

It is generally accepted that the permanent reduction of inflation should remain the principal economic objective. Its achievement, however, does not necessarily depend on reducing reserve growth. The difficulties encountered by countries in their efforts to reduce inflation are more attributable to the exchange rate fluctuations experienced than to the increase in international liquidity during the last decade. The current liquidity problem reflects the failure of countries to pursue convergent policies. In this sense, then, the source of the liquidity problem has not altered after 1973.

Exchange rate flexibility was not consciously chosen by countries. It was forced on them by the collapse of the Bretton Woods system. Ten years later, the prospects for an agreement on a reformed international monetary system remain as remote as ever. However, it is arguable that as disenchantment with exchange rate flexibility grows, the world will increasingly turn to considering the benefits of an SDR standard, or some variant of it, which will ensure that the viability of the international monetary system will not depend on a single country's monetary policies. Until that day, an international liquidity problem, real or imaginary, will continue to be the subject of intense debate.