

The Exchange Rate System : Some Issues*

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It is now more than decade since the world abandoned the system of fixed but adjustable exchange rates which was the centre-price of the old Bretton Woods system. That system collapsed in 1973 with no official agreement on what was to replace it, and the major currencies were set afloat in world currency markets. These arrangements, which at first had not official international sanction, were later legitimized by the Second Amendment to the Articles of Agreement of the IMF in 1978, which allowed members to adopt exchange rate arrangements of their choice.

The new system, which some have called a “non-system”, is characterized by a mix of exchange rate arrangements. Major currencies float relatively freely in world currency markets. The countries forming the European Monetary System float as a group against other major currencies and maintain a form of managed floating within adjustable margins against each other, with will defined rules of intervention backed by currency swap arrangements. The developing countries have not resorted to independent floating but has either pegged their currencies to one of the major currencies or, increasingly to a basket of currencies. Whatever the exchange rate arrangements adopted, all countries face a world in which exchange rates vary considerably and often unpredictably. In the ten years and more that the new system has been in operation, considerable experience has been gained and a degree of consensus has emerged on the functioning of the system and its shortcomings. The object of this paper is to review the main elements of this consensus and to identify the outstanding issues in this area which remain on the agenda of international monetary reform.

The Experience with Floating Rates

In evaluating the experience with floating rates we must avoid the temptation to lay entirely the blame for the dismal state of the world economy in recent years on the exchange rate system. It is clear that world production and world trade grew much more rapidly under the old Bretton Woods system than they have during the period of floating rates. It is also true that developing countries on the whole have experienced much greater difficulty in almost all dimensions under the new regime. This does not however establish that the exchange rate arrangements were the prime cause of the difference in performance. There is a multitude of factors which affect world trade and production growth, and within that, the prospects and performance of the developing countries. The exchange rate system is an important part of the totality of influences on the functioning of the world economy, but it is not the only influence, and we certainly cannot assume that the world would have been a better place, *celeris paribus*, if only the old fixed rate system had remained in place. On the contrary, one of the elements on which there is a wide consensus is the view that structural developments in the international economy in the two decades after Bretton Woods had made the fixed rate system unworkable. It is important to understand the reason why the fixed rate system became unfeasible since any recommendation regarding exchange rate arrangements in the future must deal with these structural developments as given.

Infeasibility of Fixed Rates

The proximate cause of the breakdown of the Bretton Woods system was the inability to maintain the fixed dollar price of gold. The United States did not take effective corrective action when the dollar came under increasing pressure in the late sixties, by when the “dollar storage” of the fifties had been converted into a “dollar glut”. This in turn has been attributed to the fundamental asymmetry in the Bretton Woods institutional arrangements in which there were no effective disciplinary instruments that could be used for surplus countries and the key reserve currency country.

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The basic problem arises because the maintenance of external equilibrium with a set of fixed normal exchange rates requires that the major trading countries accept the fixed nominal exchange rates as parametric, and adjust their domestic economic policies to ensure external account viability at these rates. This requires a substantial sacrifice of domestic policy objectives to the requirements of external equilibrium. Assuming that the initial exchange rate structure corresponds to a set of equilibrium real exchange rates, for it is real exchange rate structure through stable nominal rates requires that the rates of inflation in different countries should not diverge. Since differences in economic performance and in the importance attached to different domestic economic objectives, typically reflect themselves in different rates of inflation, the requirement that inflation rates should not diverge imposes an important restriction on domestic economic management. It is a restriction that may prove extremely cumbersome under certain circumstances.

It is in these circumstances that the alternative of delinking domestic economic management from the maintenance of exchange rate stability gained intellectual acceptability. Floating rates enable countries to pursue independent domestic economic policies, making their own choices about the relative importance to be given to conflicting domestic objectives such as employment and price stability, while the requirements of external equilibrium are met by allowing nominal exchange rates to adjust to achieve the required real exchange rate configurations. In its extreme from the delinking argument could be stretched to assert that coordination of policies was simply not necessary. Paul Samuelson, participating in a seminar in late 1978 put it as follows“ I have heard people say that we have to have coordinated policies under floating exchange rates. That is what we don't have to have. Germany can fight inflation if it wants to, that is its own business under a properly running floating exchange rate. If the Germans and the Swiss wish to regard us as banana republics; if our political system insists upon making compromises, which it does not insist upon making, it is precisely floating exchange rates – not the automatic gold standard, not the Bretton Woods standard – that makes this possible.

Floating Rates in Practice: Volatility, Overshooting and Misalignments

The actual experience under floating rates has belied expectations that the new system would provide an easy way of insulating domestic policy from external balance considerations. Countries have in fact followed uncoordinated macro-economic policies, but floating has not ensured a reconciliation of these policies with a satisfactory external equilibrium. There is a widespread feeling that currency swings have been excessive, that exchange rates have tended to overshoot and that there have been persistent currency misalignments. In short, there is widespread agreement that the external balance achieved under floating rates does not constitute an “equilibrium” or at any rate not a “satisfactory equilibrium”.

The Annual Report of the IMF for 1984 makes this distinction as follows: “In a narrow sense one can even say that, in the absence of intervention by the authorities in foreign exchange markets, exchange rates are always at equilibrium levels since they are simply a reflection of the preferences and expectations of market participants engaged in free and open trading based on information available to them. But that observation does not imply that serious misalignments cannot occur in terms of the relative prices at which international trade takes place. Whenever stable domestic economic and financial conditions are absent, developments in financial markets can lead to swings in exchange rates that while reflecting the free play of forces in the foreign exchange market may not be consistent with the proper functioning of the adjustment process in the goods markets”.¹ On this view, Paul Samuelson as quoted above is thinking of what the IMF calls equilibrium in the narrow sense which can be achieved by floating rates whatever the stance of macro-policy in different countries. However equilibrium in the wider sense according to the IMF must be understood in terms of the proper functioning of the adjustment process in the goods market. The IMF does not define what exactly constitutes proper functioning but one can discern two alternative definitions in the discussions on this subject. One is to define equilibrium in terms of bringing the current deficits in line with sustainable levels based on some notion of underlying or long term capital flows. This is in effect what Williamson, in the nostalgic jargon of Bretton Woods, calls “fundamental equilibrium”.² A second and more ambitious definition of “proper”

functioning would impose normative considerations on the basic stance of macro-economic policy adopted in the industrialized countries. Much of the discussion on the functioning of the international adjustment process does indeed follow these lines and have focused on the need for macro-economic coordination among the major industrialized countries as a necessary condition for a satisfactory functioning of the world economy.

Ignoring for a moment the broader case for macro-economic coordination it is worth considering to what extent floating exchange rates can at least generate “fundamental equilibrium” in Williamson’s sense. In other words, given the adoption of particular macro-economic stances by major industrialized countries can we assume that a system that a system of floating rates would be conducive to achieving fundamental equilibrium without persistent currency misalignments? And would the resulting exchange rates be stable?

At the outset, it is important to recognise that exchange rate stability under floating rates can at best be understood in terms of stability in the real (price adjusted) exchange rates. Once an equilibrium real exchange rate structure consistent with the basic stance of macro-economic policy, is achieved we can expect that nominal exchange rates will change in response to inflation differentials to maintain the equilibrium real exchange rate. There can be no presumption of stability in nominal exchange rates as long as inflation rates are not the same and they are surely not likely to be the same if the switch to floating rates has been necessitated precisely because macro-economic policy could not be effectively coordinated.

Even the achievement of equilibrium real rates in Williamson’s sense in a floating rate system may not be easy. For one thing it is simply true that as long as the exchange rate is allowed to vary, the current account can be brought in line with equilibrium requirements whatever the stance of macro-economic policy. It has long been known that exchange rate variations can generate equilibrium only if accompanied by an appropriate mix of domestic policy. Where the domestic policy stance is not supportive to adjustment, and this has often been the case, mere flexibility in the exchange rate will not suffice to bring about external balance.³

There are also several reasons why a regime of floating rates may generate unnecessary volatility and misalignment. For one thing the fact that exchange markets adjust rapidly to current account changes while goods markets adjust slowly to exchange rate changes means that exchange rate adjustments are likely to lead to “overshooting”. An exchange rate depreciation induced by a current account imbalance may lead in the short run to a further worsening in the current account imbalance because of the well-known *J curve effect* and this in turn could lead to further exchange rate depreciation. Such “overshooting” would be particularly large if the spot exchange rate is heavily influenced by perceptions regarding short-term movements in the current account.

Another extremely important factor that militates against the achievement of “equilibrium” real effective exchange rate in the traditional sense discuss above is the increase importance if not dominance of capital account transaction in the determination of exchange rate. The removal of capital movement restriction combine with the enormous expansion in the volume of offshore funds held in world financial markets, has meant that capital account transaction amount currencies arising from portfolio that switches, can dwarf the size of current account transactions and exert a dominant influence on exchange rate movements. The factors which determine these asset choice decisions include the overall macro-economic policies and prospects of different countries, and expectations of changes in these policies. Expectations are necessarily subject to considerable uncertainty. The possibility of random destabilizing movements is further increased because information available on a day to day basis is often of a tenuous kind, yet it can have a substantial effect in terms of the volume of funds moved in the market.

All these factors making for volatility, overshooting and misalignment are exacerbated by certain institutional characteristics of the foreign exchange markets. The argument that speculation in the forward market will stabilize exchange rates under a floating rate regime, which was an important argument in the armouring of the early advocates of floating,

especially Milton Friedman, simply does not square with institutional realities. Banks and multinational corporations which are the main institutions involved in making portfolio choices among foreign currency assets are typically risk averse and tend to avoid “weak currencies” or currencies “under pressure”. This contributes to cumulative crises facing individual countries which can contribute to serious overshooting of the exchange rate.

Having established that the operation of a floating rate system is likely to lead to exchange rate instability and overshooting, it is necessary to consider whether these phenomena are quantitatively important, and if so, what costs they entail. It is useful in this context to distinguish between volatility and misalignment. Volatility refers simply to fluctuations either from period to period or around some trend level and these fluctuations may be measured either in terms of nominal or real exchange rates. Misalignment refers to divergence of the exchange rate from some notional equilibrium level. Volatility does not necessarily imply misalignment since the exchange rate may be volatile because the equilibrium rate is volatile in which case there is no misalignment as such (although this is unlikely to occur in practice). Misalignment also does not necessarily imply volatility since exchange rates may be relatively stable but persistently misaligned in terms of their equilibrium levels.

The evidence on volatility can be summarized as follows. There is clear evidence that whether we take nominal or real effective exchange rates, volatility was greater after 1973 than before.⁴ The weighted average of monthly changes in nominal effective exchange rates of 7 major industrial countries was 0.2 percent during 1961-70. This rose to almost 1.2 percent over the period 1974-83 which is a six fold increase. There is also evidence that the extent of volatility has increased over time in the period of floating rates. This may be seen in Table 26.1 that compares the average daily volatility in spot dollar rates for three major countries in the period 1973-79 with the average for subsequent years. There is a significant increase in day to day volatility. Volatility as measured by the real effective exchange rate has also shown a rise according to the IMF study cited above. Volatility in real effective exchange rates of the 7 major industrial countries was 0.38 percent in 1961-70 and increased to 1.22 percent in 1974-83, a three-fold increase compared with the six-fold increase when measured in nominal terms.

Table 26.1 Daily Volatility of Selected Spot Dollar Exchange Rates*

Years or Quarters	Deutsche Mark	Japanese Yen	Pound Sterling
1973-79 average	0.40(0.36)	0.29(0.25)	0.30(0.27)
1980	0.47(0.42)	0.52(0.45)	0.37(0.35)
1981	0.73(0.67)	0.55(0.52)	0.65(0.57)
1982	0.55(0.53)	0.64(0.61)	0.46(0.40)
1982 1 st quarter	0.51(0.40)	0.65(0.45)	0.45(0.33)
2 nd quarter	0.57(0.54)	0.61(0.56)	0.44(0.40)
3 rd quarter	0.63(0.59)	0.61(0.53)	0.52(0.47)
4 th quarter	0.49(0.39)	0.68(0.46)	0.45(0.38)
1983 1 st quarter	0.62(0.59)	0.62(0.59)	0.46(0.32)

Source : Annual Report 1982-83; Bank for International Settlements; p. 142

* Volatility is measured by the average absolute value of day-to-day percentage changes. Figures in brackets are adjusted for the trend factor during the period and thus indicate the degree of “excessive” movements.

This brings us to the question: Does volatility matter? The existence of volatility in the sense of random fluctuations adds to uncertainty in foreign trade transactions. The uncertainty can be reduced by hedging in forward markets but this does not solve the problem. In the first place hedging involves costs and these costs may be measured by the bid-offer spreads in the forward markets. It is interesting to note that these spreads have raised sharply since 1979 itself a reflection of the increase in uncertainty in world exchange markets. Secondly,

and this is very important, hedging is possible only over a relatively short period, typically six months and at most a year. While this is adequate for trade payments lags, it is not adequate for longer period contractual payments obligations as for example on debt servicing. At present no effective mechanisms exist to hedge against exchange rate movements over longer periods as many countries may wish to do especially in so far as debt obligations are concerned. Finally developing countries typically do not find it easy to engage in forward market activity so that the effective scope for hedging available to economic agents in developing countries are relatively limited.

Thus volatility has a cost and the cost has increased as the extent of volatility has increased. The cost is larger for developing countries than for developed countries. For the developed countries the consensus of opinion thus far seems to be that the costs of volatility are on the whole not large enough to have disrupted the level and pattern of trade. For developing countries there is some evidence that volatility in a real exchange rates has had adverse effects (Coes 1981 on Brazil and Diaz Alejandro 1976 on Colombia) but it appears that in these cases the real exchange rate uncertainty arises from erratic pegging practices and not the erratic market movements of a floating rate.⁵ This has relevance for the question of how developing countries should manage their exchange rates in a world of floating rates- a point we return to later in this paper.

These are very large magnitudes and it is interesting to note that the misalignments have continued over a fairly prolonged period. There can be no doubt that they would have a quantitatively significant impact on both the level and pattern of world trade. The costs of misalignment are many and varied. They give the wrong price signals leading to misallocation of resources. Because of adjustment costs they involve loss of potential production and employment for the economy since resources cannot in fact move as much as required by misaligned exchange rate. Most dangerous of all they give intellectual respectability to protectionist pressures especially since the industries affected are not only those that should naturally be phased out but also those suffering purely from exchange rate misalignment. Williamson makes the important point that while protectionist pressures increase in countries where the currency is overvalued this is not likely to be offset by comparable pressures to liberate where the currency is undervalued. On the contrary there may be over investment in export or import competing industries on the strength of the undervaluation of the exchange rate which, when the misalignment is removed, will have to be abandoned. In short, sequences of overvaluation and undervaluation may ratchet up the degree of protectionism with clear economic costs.

Some Policy Issues

The above review of the functioning of the floating rate system indicates that the system has not functioned as smoothly as its proponents had expected. Floating rates have certainly not made the world immune from the adverse consequences of uncoordinated micro-economic policies. On the contrary, inappropriate micro-economic policies are often at the root of the serious misalignments that have emerged under the system. These difficulties focus attention on a number of policy issues that are relevant in designing a better exchange rate system. In this section we comment briefly on each of these.

a) *Target Zones*

Since fixed exchange rates are infeasible and floating rates have not solved the problems, there has been our understandable search for intermediate solutions and one of these is the concept of "target zones".⁶ The term is extensively used but is not always precisely defined. The basic idea seems to be that national authority, instead of taking the view that the exchange rate can settle where it will, should instead declare some sort of commitment of managing the exchange rate so that it stays at or near an equilibrium real effective rate. Instead of the narrow band of permissible variation allowed under the old Bretton Woods system the intention seems to be to allow wider variation and also to have soft margins. Since the target zone is in terms of real effective rates, the minimal exchange rate band is expected to be continually adjusted to take account of inflation differentials. The target zone should be published and it should be understood that monetary policy and sterilized

intervention would be used to keep the exchange rate within the target zone as far as possible.

It is difficult to be confident about how a system of target zones would work in practice. On the one hand the proposed width of the zone and the existence of the soft margins suggests that a significant degree of instability and misalignment would still arise. However the implicit commitment to manage the exchange rate by using monetary policy and sterilized intervention can be expected to dampen these tendencies. In effect the "target zone" approach could provide mechanical signals from the exchange markets to domestic policy management to counter any excessive departure of exchange rates from fundamental equilibrium. The knowledge that such contracting policy would be triggered would also help to stabilize expectations in currency markets.

An important qualification on the effectiveness of the target zoning is that it is likely to be most effective only when target zones for the major currencies are determined in a mutually consistent manner. The target real effective exchange rates to be pursued by the major countries must be consistent with the patterns of current surpluses and deficits envisaged and there must be confidence that intervention will be symmetrically followed by countries at either end of the band. All this implies a high order of macro-economic coordination to which we revert later in this paper.

b) *The Need for Reserves*

An important issue arising out of the adoption of floating rates is what it does to the need for reserves. The two dominant characteristics associated with the floating rate system are its equilibrating and insulating properties. As a result of the operation of both these properties, it was argued that the demand for international reserves would go down and that countries could manage with a lower order of reserves than under fixed exchange rate system. At a theoretical level the arguments in support of insularity as mentioned previously were at fault because they did not take into explicit account capital account transactions. The actual experience of floating rates has also belied the anticipation that demand for reserve would go down. Frenkel has estimated⁷ the demand function for reserves using cross section data for all the years from 1963 onwards and tested whether there was a shift, after floating, in the values of the co-efficient of the independent variables such as variability of international receipts and payments, the level of GNP and the average propensity to import. The equations showed that the demand for reserves has not been affected by the shift to floating rates. The fact that the demand equations remained unaffected implies that countries still feel the need for holding owned reserves in spite of the increased access to the capital markets and bank borrowings. Indeed the demand for reserves may have been underestimated to the extent that the actual holding of reserves by developing countries in the second period may have been less than the desired holding.

Large scale official intervention in exchange markets also shows the continued need for holding reserves. It is estimated that official intervention under floating rates might have been even greater than under fixed rate. According to the annual report of the Deutsche Bundesbank, interventions in the market were of the order of DM 18 billion in 1980, DM 21 billion in 1981 and DM 7 billion in 1982. Further data in this regard have been provided in a recent IMF study.⁸

The Working Group on Exchange Market Intervention has opined that such interventions had occurred not only for the purpose of ironing out temporary fluctuations but also for the purpose of "resisting rate movements which bear no relation to the fundamentals". Except for the U.S, the other central banks in recent years have chosen to intervene whenever they feel there has been a misalignment in the exchange rate. Thus, the equilibrating property has not necessarily been ensured by floating rate system. Consequently, the need for reserves has not diminished.

Under floating rate system, it is true countries acquire an extra degree of freedom in policy formulation and implementation because they do not have an exchange rate to defend.

However as stressed earlier this does not free completely domestic economic policy from external factors. This is particularly so when the framework has to take into account the inter-dependence which comes from both the capital market side and the international currency side. The recent experience with the U.S. dollar provides a telling example of the situation. A high interest rate arising from unusually large budget deficits has led to large scale attraction of the capital inflows into U.S which in turn have tended to maintain a strong dollar. The other countries which have experienced capital outflows are not in a position to pursue independent solely by domestic considerations. Even under a fixed exchange rate system a high interest rate will attract capital inflows. But once the exchange rate has reached the top of the band, further capital inflow will be held back even in rates of interest are raised because there is always some risk of a fall in the exchange rate. However, with the floating rate, capital inflow can be accelerated by the prospect of a further appreciation of the currency. In short, a country may not system than under fixed exchange rate system. In any case the adoption of target zones would require monetary policy to be supplemented by intervention as discussed earlier. Consequently the need for reserves to prevent the domestic economy from have to adjust too frequently to external shocks remains large.

A continued need for reserves under the floating exchange rate system needs to be emphasized because there has been a persistent opposition to the creation of new international liquidity in the form of SDRs on the ground that additional reserves are not needed. From the way floating rate system has been functioning, neither from the point of view of the developed countries nor from that of the developing countries can it be argued that additional reserves are not needed.

c) *Implications for Developing Countries*

Much of the discussion about exchange rate systems focuses on exchange rate options in the industrialized world. The issues of exchange rate options for the developing world have in general received much less attention. Developing countries clearly have a deep interest in the efficient functions of the international exchange rate system even among industrialized countries and any modifications in this area which improves the functioning of the world economy and world trade would contain significant advantages to the developing countries. Apart from this aspect, however, there are exchange rate options that individual developing countries must necessarily face.

Most developing countries have chosen to peg rather than float for a variety of reasons. The merits of this decision are not examined here—to do so would take us well beyond the scope of this paper. But it is relevant to ask, how should developing countries peg their exchange rates? Increasingly, developing countries have pegged to a basket of currencies. In some cases the basket is tailor made, taking account of trade directions for example, and in other cases the basket is simply ready-made in the form of the SDR.

There is extensive theoretical work on what is the optional basket and how basket weights should be determined all of which is designed to ensure a change of basket level. However stabilization of the nominal effective exchange rate is important only in circumstances in which domestic's inflation rates closely follow inflation rates in trading partners. This is not likely to be the situation in most developing countries so that stabilization of the nominal effective exchange rate will in general not stabilize the real effective exchange rate at a desired level, which is what matters.

This suggests that it is less important to worry about the design of the currency basket, which determines the extent of nominal exchange rate stabilization, than to ensure that exchange rate policy is sufficiently activist to ensure that real effective exchange rates move in a desired fashion. It may not be possible to design a basket that ensures that this objective is automatically achieved which in turn means that whatever the basket is adopted realignments of the basket may be necessary so that real effective rates remain on target.

A second issue which is extremely relevant in a world of floating rates in which large exchange rate variations are likely over the medium-term is the currency composition of external debt. Since it is not possible to hedge over long periods, developing countries must

ensure that the composition of their foreign assets and liabilities is such as to minimize risk. In general this calls for much greater diversification in the currency composition of debt with due allowance to interest rate differentials.

d) Coordination of *Macro-Economic* Policy

Whether the exchange rate system is floating, fixed or a combination of the two, there is no way that a country can insulate itself from external factors. It is an illusion to think that the floating rate system provides an escape route. This lack of insulation enforces interdependence. The more dominant an economy the more wide spread is the impact of its domestic economic policy on other countries. Therefore a satisfactory exchange rate system can emerge only if macro-economic policies of the major industrial countries are stable, mutually consistent and conducive to satisfactory performance of the world economy. In fact the 1978 amendment to the IMF Articles recognises this and enjoins the member countries to 'endeavour to direct its economic and financial policies towards the objective of fostering orderly economic growth with reasonable price stability'. On paper, the amended articles imply a more active role for the Fund in its surveillance over exchange rate policies. The practice of course has been woefully inadequate.

In the light of the experience of the last few years, there is an increasing near universal emphasis on the need for coordination of domestic economic policies. This raises a critical institutional question. How is such coordination to be achieved and who is to participate in it? Coordination would indeed be partial if the synchronisation of policies is confined to industrial countries aimed at minimizing the imbalances among them. The international monetary system must remain 'international'. The goal that is sought to be achieved must be one of the optimal global welfare.

The equilibrium that results from any given set of macro-policies in industrialized countries affects the whole world often in powerful ways. The persistence of a system which compels the flow of resources from the developed to the developing. The surveillance of the exchange rate policy of member countries has no meaning unless it seeks as Article 1 of the IMF Agreement asserted 'to contribute to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objective of the economic policy'.

Notes and References

¹ IMF, *Annual Report 1984*, p.35

² Williamson, J. *The Exchange Rate System*.

³ See for example Artus, Jaques R. and Young, John H. "Fixed and Flexible Exchange Rates: A Renewal of the Debate" IMF Staff Papers, Vol. 26, 1979.

⁴ "Exchange Rate Volatility and World Trade". Occasional Paper No. 28. International Monetary Fund. P. 12

⁵ See Williamson *op. cit.* Donald V. Coes "The Crawling Peg and Exchange Rate Uncertainty" in *Exchange Rate Rules* (ed.) John Williamson and Carlos Diaz-Alejandro "Foreign Trade Regimes and Economic Development Columbia" New York : NBER.

⁶ Williamson (1983) for example suggests a band of 10 percent width on each side.

⁷ J.A. Frenkel "International Budgetary and Monetary Control", paper presented at conference on International Money, Credit and the Role of the SDR.

⁸ *Exchange Rate system: Lessons of the past and options for the future*, Occasional Paper No. 30. International Monetary Fund.