EXCHANGE RATE FLUCTUATIONS: CAUSES; CONSEQUENCES; MEANS TO GREATER STABILITY

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Summary

The standpoint of this paper is that while the present system of (more or less) floating exchange rates has in practice not always worked well there is no evidently superior alternative. The paper looks first at the explanations of exchange rate instability, its magnitude and effects. The conclusion is that the costs of exchange rate instability do not appear serious though there may be greater difficulties for some traders in developing countries. Then, various ways are considered of moderating exchange rate instability at a national level within a generally flexible system. Of these, the use of a reference exchange rate and some degree of 'leaning against the wind' may moderate extreme short term fluctuations but both can be destabilising as well as stabilising. The regional approach - as in the European Monetary System - is considered but it is not obviously replicable and to the extent that it tries to peg rates its survival is not by any means assured. There would be greater exchange rate stability if national economic policies in the major currencies diverged less. After reviewing the main mechanisms for coordination it is concluded that this is less a technical matter than a question of differing national priorities in relation to inflation and economic activity.

I. Background

Definition of the Problem

Since the breakdown of the Bretton Woods fixed exchange rate (or 'adjustable peg') system a decade ago floating has become increasingly common albeit with varying degrees of 'managed' flexibility. In addition to the dollar and the pound sterling, 31 currencies now float independently, as against 27 in 1980 and 9 in 1975. While the theoretical and practical advantages of floating continue to attract adherents there has however emerged a substantial body of criticism to the effect that the system had led to excessive fluctuations with significant economic costs. The IMF, for example, argues in its last annual report that "the desirability of reductions in the variability of exchange rates is not in doubt" but acknowledges that "there is much controversy as to how to achieve

this goal". 1/ While the problem primarily affects industrial countries, to quote the Fund: "developing countries have also been adversely affected by the variability of exchange rates". This theme is echoed by the Brandt Commission: "we would strongly support action to provide greater stability to relationships among exchange rates". 2/ And among other major statesmen - past and present - who have recently argued the need for a stabilisation of currencies are George Shultz, Helmut Schmidt, Roy Jenkins and Edward Heath.

Before looking in detail at the reasons for this anxiety and at possibly alternative solutions, we need to clarify certain concepts. First, exchange parity movements are commonly expressed in bilateral terms of one currency against another (normally the $). It may however be more meaningful - though it is much less easily measured - to consider fluctuations in effective exchange rates which are weighted according to the proportion of a country's trade (or transactions generally) carried out in different currencies. Second, a distinction has to be made between nominal and real exchange rates. Movements in nominal rates will - and should - offset differences in national rates of inflation. 3/ Thus, a trade may experience considerable instability in nominal exchange rate transactions, while the underlying real effective exchange rate relationship is stable; or vice versa. 4/ There are also divergencies in the long term purchasing power of currencies arising from other sources than relative inflation rates: developments in energy and resources; changes in political and economic management; labour market developments. Third, the existence of currency instability has to be considered against different time horizons. It can be treated as a short run phenomenon (usually defined in terms of daily, monthly or quarterly variations) or alternatively in terms of longer term deviations from an equilibrium level reflecting national competitiveness which - in the case of Japan and the UK in recent years, for example - can be both substantial and prolonged. (For simplicity we shall in future refer to exchange rates as XRs).

In looking at deficiencies in present arrangements we need to be careful in separating out causes and effects; symptoms and underlying problems. The Bretton Wood's 'adjustable peg' arrangements broke down because differentials in the rate of inflation were substantial and could not be contained within fixed XRs. Inflation remains, and there continue to be substantial national differences in rates of inflation and in macro-economic policy. These in themselves give rise to uncertainty whatever XR system is adopted, and are the source of many of the problems now attributed to floating rates.

For this reason, too, the deficiencies of the present system need to be considered not in abstraction but in relation to politically realistic alternatives. There is no prospect of a system of rigidly fixed XRs. It presumes a general commitment to the subordination of national economic policy objectives which is nowhere apparent. Nor is there any serious advocacy of a return to an 'adjustable peg' system since its inherent weakness - the 'one way' bet offered to speculators against overvalued XRs - would be even more cruelly exposed by today's highly integrated international capital markets. Even in the European Community, with the large resources available to the EMS for common intervention purposes it has not proved possible to defend XRs for long. Essentially, we are concerned with variants of the floating rate system designed to ensure greater stability:

(i) national exchange market policies which can be broadly divided into two: first, using Central Bank intervention and/or monetary policy to 'lean into the wind' and dampen fluctuations; second, setting explicit target or reference rates which define the official view of the 'correct' rate and which may then be supported.

(ii) national policies to reduce the mobility of certain types of capital flows, in or out, in an attempt to make the exchange rate more sensitive to current account conditions rather than asset market conditions.

(iii) regional currency arrangements, like the EMS, designed to introduce greater XR stability between the currencies of neighbouring countries whose economies are closely interdependent.

(iv) multilateral policies to achieve greater stability: through IMF surveillance of national XR policies; through closer coordination of monetary policy between the main trading countries.

How Much Instability?

Given the need, which we have already stressed, to be careful in defining what is actually meant by XR instability, it is possible to quantify the extent of volatility with the benefit of hindsight. Taking the period of floating rates as a whole four main (non-US) financial currencies have fluctuated on average by almonst 5% against the dollar every three months and in the past three years they have fluctuated about 6% per quarter. These are nominal rate variations, but there have been significant, albeit lesser, quarterly variations in real XRs by 2.5% to 3% (see Table 1).

Commenting on these statistics, their author notes: "only a small part of the volatility is accounted for by the longer term trend particularly since for much of the time each currency is moving contrary to the trend". 5/ Sterling, for example, has swung by an average of six times more than its trend movement on a quarterly basis and all non-dollar trading currencies have fluctuated more in the markets each quarter than their average annual trend movement (whether measured in real or nominal terms).

TABLE 1

Quarterly Changes
in Main Currencies against the Dollar, 1972-82
(% change)

	£	DM	Yen	Sfr	$
ACTUAL					
Average	3.92	4.98	4.45	5.79	-
Highest	13.45	17.05	15.10	20.43	-
Trend	-0.63	+0.88	+0.89	+1.825	-
REAL*					
Average	2.87	2.10	3.42	2.65	2.43
Highest	8.54	9.46	8.70	10.20	8.0
Trend	+0.71	+0.04	+0.09	+0.30	-0.04

* Adjusting for relative prices

Source: Lloyds Bank International Financial Outlook

Another indicator of short run XR instability is the extent of divergencies between the forward XR and future spot rates; in other wards the forward rate for a particular date becomes less accurate as a predictor of the actual spot rate on that date than when XR movements are governed by market perceptions of steadier trends. Errors for European currencies in the (dollar) forward market - the standard deviation of observed daily 'errors' measured ex post - rose strongly in the period 1979-81 for the DM (from about 2% to 6.5%), the French franc (2.4% to 6.2%), the Swiss franc (2.8% to 7%), Sterling (4% to 6.5%) and the lire (1% to 5.7%) though there were no similar trends observed for the yen or Canadian dollar. 6/

Other work, looking at movements in effective rates from the standpoint of individual countries, found that there was a large majority of countries experiencing greater

instability both in nominal and real terms, and indeed, that real rate was more unstable than the nominal rate. 6A/ The conclusion was the same on two different measures of instability. The sample was heavily dominated by more numerous developing countries and it was clear that instability, however measured, was much more for these countries.

The question of long term variability raises different issues but there have been major long term fluctuations in real effective XRs. In several cases - notably Britain and Italy - effective rates have diverged greatly from the trend in relative costs. Italy provides a classic case after 1977 of XR 'overshooting' in a downward direction; the UK of the opposite phenomenon. On the other hand, in several cases, XR variations follow very closely the trend in relative costs - especially Canada, the USA and (until 1981/82) France. We do not, of course, know how much more real effective XRs would have diverged from 'equilibrium' had an attempt been made to prevent changes in nominal rates under a fixed rate system.

Why Instability?

An explanation of instability has to start with a more general explanation of how XRs are actually determined in a floating rate system. The traditional view of XR determination centred on the current account - brought about by declining price competitiveness and/or excessive absorption, or expenditure - leading to a depreciating XR. Contemporary explanations give pride of place to short term capital account transactions: the 'asset market theory of exchange rates'. 7/ When international capital and money markets are well developed and integrated, asset holders are constantly adjusting their portfolios to take account of XRs (therefore, the relative prices of assets in different currencies) and differential interest rates. At any one time a country's (spot) XR will be determined by market expectations of future movements in the XR and by relative interest rates (arbitrage should ensure that the differential between domestic and foreign interest rates is matched by the currency's forward premium, or discount). XRs are thus determined by monetary and fiscal policies (which determine interest rates and mould expectations about future relative inflation rates) and by the numerous other factors, political and economic, which influence expectations.

The criticism that there is 'too much instability' centres on the belief that, in current conditions, XRs consistently 'overshoot'; that is, they fail to reflect the underlying economic 'reality', as represented by differential

inflation rates and/or the current account balance. The criticism of overshooting in 'floating' rate markets can be divided into several distinct points:

(1) short term XRs are volatile simply because the primary influence on short term rates is expectations in asset markets. Why? The value of the stock of assets involved in international markets is, at any one point in time, considerably greater than the supply and demand for currency for financing flows of goods and traded services; so a change in perceptions about future asset values and rates of return has a much greater impact on the market than a - short term - change in the balance of current transactions. Moreover, the information available to the market on a day-to-day basis may be of a very tenuous kind yet can substantially raise expectations and, thus, move the spot rate sharply. 8/ One corollary of this alleged short run volatility is that the spot markets may be more unstable than forward markets (though there is no conclusive empirical evidence to this effect).

(2) One of the main intellectual underpinnings of the floating rate system has been the argument of Friedman and others that speculation in the forward market will stabilise fluctuating rates; the reason being that speculators who are willing to take an open position in weak currencies which are temporarily undervalued by the market will make profits when equilibrium is restored. 9/ Critics argue that major institutions involved in foreign exchange dealings - banks and multinational corporations - are, in fact, risk averse and prefer to have a safe spread of currencies rather than take large net open positions in particular currencies. Moveover, their instincts are to avoid the currencies of countries with 'weak' or 'unstable' unorthodox governments, thereby contributing to cumulative crises. 10/ As McKinnon observes: "the large exchange rate swings since 1973 make it difficult to argue that the market has been dominated by positions taken in pursuit of long run profits". 11/ He argues that in order to overcome these market imperfections national limitations on foreign exchange dealings need to be lifted, increasing the amount of speculative capital available to foreign exchange markets. However even with current limitations on the amount of speculative capital - due mainly to the influence of supervisors on the banks, the main participants in the market - it has been demonstrated that speculation is not consistently destabilising. 12/

(3) A third explanation of XR instability arises from the imbalance between the rapid reaction of exchange markets to news of changes in the current account and the slower reaction of goods markets. 13/ To quote the IMF: "Once XRs start to move in response to large current account imbalances, they often enlarge these imbalances initially

because they improve the terms of trade of surplus countries and worsen the terms of trade of deficit countries, while the volumes of foreign trade flows respond slowly to changes in price competitiveness, in part owing to the difficulty of identifying the underlying direction of exchange rate movements when XRs are highly volatile. This J-curve effect may, in turn, lead to further and excessive XR changes, as has at times been observed in the 1970s". 14/ A more optimistic view would be that such 'poorly behaved' speculation will right itself as the J-curve effect is better understood (if, indeed, it is typical).

There is now a fair measure of consensus on the existence of instability of short term XRs. To quote the Group of Thirty: "Nearly all bankers, in all centres, said that the markets 'overshoot' in the short run". 15/ There is however more controversy over whether foreign exchange markets are more accurate in the medium term and about whether short term or long term over- (or under-) shooting actually matters very much.

Do Fluctuations Matter?

The alleged costs of XR volatility are of different kinds: first, disincentives to trade (and investment) as a result of greater uncertainty; second, adjustment costs as a result of 'overshooting'; third, the possibility that the system may have permitted relatively high inflation - and international differentials in inflation - leading to the economic costs associated with inflation:

(i) to the extent that there has been volatility in short term XRs, in relation to international price differentials, there is an increased risk involved for traders in the gap between contracts and settlement. Traders can insure against risk in the forward market, or they can hedge in other ways (big companies, for example, adjust their portfolios of different currencies). There is evidence that traders have learnt from experience to make more use of forward markets under floating rates. 16/ There are, however, costs involved in forward cover and in other forms of hedging. Evidence of the increased costs of hedging in the New York forward market is provided by movements in the spreads between buying and selling rates. For some currencies - the yen, the French and Swiss franc and the lire - the spread for 12 months forward cover was in excess of 0.5% in 1981, higher than at almost any time in the 1970s and while the cost of three months cover was naturally lower - exceeding 0.2% only for the French franc and Italian lire - the trend was generally upward. Forward market coverage is generally limited to a year which may

affect contracts with a long time lag and also foreign direct investment decisions (though export credit guarantees increasingly include exchange rate cover). Moreover, forward markets by no means represent a complete answer to the problem of XR instability. It is of use primarily when there is a good deal of spot market instability but not if the forward rate is fluctuating just as much.

There are also geographical limitations. Few developing countries have a well developed forward market and even if the ldc currency is linked to a major currency it may be difficult for a trader to operate at long distance in the US or London forward market or to get permission from his central bank to buy and sell forward (and if the ldc currency is linked to a basket the operations could become very complicated). 17/

The cumulative effect of these problems on the level of trade flows in general is difficult to assess but generally reassuring. Studies that have attempted to measure the direct and indirect effects of exchange rate volatility on international trade have yielded inconclusive results. 18/ GATT is sceptical about the costs of XR instability for trade but acknowledges that there are 'micro-economic' costs including those arising from the use of scarce managerial resources to XR operations. It acknowledges that anything which adds, even at the margin, to uncertainty about profitability will inhibit private capital investment especially in countries with a large traded sector. 19/

Direct evidence collected from surveys of traders does however suggest strongly that while there are doubtless costs arising from XR instability these are not an important deterrent to trade or investment.A survey of US enterpreneurs has shown them to be generally uncorned.20/ British businessmen were more negative than their US counterparts but the problem remained, for them, a small one. 21/ The Group of Thirty - a study group headed by Johannes Witteveen - reported in a survey of the largest and most sophisticated multinational companies and banks, in the main financial centres, that "businesses appear to have adjusted to the floating rate system rather well.... Most said floating rates introduced an additional element of risk in international trade and investment but that it was not material... none said they influenced the level of their company's international trade".22/

(ii) if 'overshooting' is substantial and prolonged, so that it gives the 'wrong' price signals to producers of goods and services, real economic costs result. One case where this may occur is where a 'speculative run' may drive

down the currency of a country with a current account deficit, or relatively high inflation, more than is merited by the extent of disequilibrium. In another case - Britain after 1979 - the attraction of high interest rates and the premium paid on a 'petrocurrency' sent the XR in the opposite direction from that which was indicated by relative inflation rates. The economic costs resulting from exchange rate fluctuations which are perverse in relation to current account and/or inflation trends are of two kinds: first, the efficiency costs of resources being deployed in a suboptimal way - that is, wasteful investment; second, the costs in terms of transitional unemployment as the economy 'overadjusts' by switching resources unnecessarily to or from the traded goods sector. The contraction in British (and Dutch) manufacturing in response to recent XR overvaluations is the most striking example of this.

(iii) criticism of the uncertainty engendered by floating XRs is more appropriately directed at the uncertainty engendered by inflation, and different rates of inflation. But the XR system may not be entirely passive in this respect; critics of floating rates argue that it facilitates inflation in deficit economies, and globally: "the combination of floating XRs with the flooding of world reserves by paper claims on a few reserve centres has also suppressed a major restraint on domestic inflation policies by all currencies alike". 23/ This complaint is only justified however at the global level to the extent that XRs have an asymmetrical effect: aggravating inflation when there are depreciating currencies more than suppressing inflation in economies with appreciating currencies Mechanisms have been suggested - downward 'stickiness' in respect of prices and wages - to suggest how this ratchet effect could operate. 24/ But it can be replied that assymetrical effects can only operate if governments accomodate them; which returns us to the central point that the 'problem' of fluctuating XRs is really the problem of governments pursuing divergent macroeconomic policies.

Costs for Small and Developing Economies

While the costs of XR fluctuations may be modest in global terms there may be greater costs for particular countries or groups of countries. One category of countries with a particular concern about excessive fluctuations is that of small open economies since for these countries XR changes have much more pervasive effects on the domestic economy and will impose considerable adjustment costs if movements are inconsistent with medium

and long term balance of payments equilibrium (as has occurred with Holland and Switzerland).

Ldcs have also reacted with general hostility to floating rates. Their complaints are of several kinds. First, it is said that the 'trade discouraging' effect of floating rates is particularly large because of the absence of scope for forward market operations or hedging for reasons discussed above. There is no reason to believe that the 'trade discouraging' effects are in fact large at all, especially when considered in relation to feasible alternatives. However, it must be said that there is no survey of evidence of the effects of floating rates on ldc exporters comparable to those on industrial countries. Second, it is claimed that ldcs which have economies pegged to a major currency have been 'locked into' that particular currency area because of the much lower risks involved in diverting trade to countries in the same currency area and that this works against diversification (ldcs which feel concerned about this point can, of course, peg their rates to a basket of currencies, as an increasing number are doing). Pegging to a basket, however, presents seperate problems in as much as particular industries which trade in particular markets may face substantially diverging exchange rates from the weighted average, which may invalidate the significance, for adjustment, of the price signals received by firms and industries. Third, there is a cost ldcs if the need to maintain a balanced reserve portfolio for hedging purposes causes them to hold larger reserves than they otherwise would. This complaint is acknowledged by the IMF... "Exchange rate variability ... has contributed to greater unpredictability of import prices and export receipts in both the short run and the intermediate term ... (and) has complicated the task faced by many less developed countries in the management of both their foreign reserves and their external debt". 24A/

To summarise, there may be some costs to ldcs but these have to be related to alternatives. Joshi's judgement is probably fair: "It is difficult to escape the conclusions that, on balance, the developing countries have fared better with floating XRs for developed countries than they would have with the adjustable peg". 25/ His argument is that without the flexibility and freedom to pursue divergent policies which floating rates have given the main industrial countries they would have resorted to more extensive protectionism and deflationary policies with adverse effects for ldcs. Developing, like industrialised, countries may then have an interest in moderating excessive fluctuations, but within the framework of floating rates.

II. National Action to Reduce Instability; and its Limitations

Although the main currencies have floated since the breakdown in the Bretton Woods par value system there has nonetheless remained a good deal of direct intervention in foreign exchange markets and indirect intervention through monetary and fiscal policy. This experience is a guide when confronting the question of whether national governments can act to stabilise foreign exchange markets under a floating rate system: to smooth out very short term fluctuations; to slow down rapid exchange movements; and to eliminate 'overshooting' in the longer term. Summarising the experience of Germany, Japan and the UK in the period 1973 to 1979 one study has adduced "suggestive evidence that intervention was stabilising, on balance". 26/

In discussing policy options it is possible to analyse the problem in two ways: first, in terms of the different policy instruments available - official exchange transactions; borrowing; the use of variations in monetary policy, including interest rates; the use of statements to influence expectations; direct control of capital flows. A second approach is in terms of broad rules or principles of intervention. We shall adapt a combination of these and look at two broad approaches to intervention ('leaning against the wind' and 'target' XRs) and one specific form of intervention (capital controls).

It should be stressed that there is no standard set of intervention rules available despite efforts by the IMF to define guidelines. Nor is it generally clear how the success of intervention is to be judged. It can be judged in terms of whether Central Banks make a profit though there is ambiguity over how we define profitable intervention (i.e. over what time period) and there are circumstances where unprofitable intervention can be stabilising. It can alternatively be judged in terms of 'equilibrium' which would be defined in terms of economic fundamentals (the real rate) or a long term market judgement. In either case it is easier to pass judgement in retrospect; though the evidence suggests that, on balance, Central Banks have a reasonable track record in intervention. 26A/ The approaches described below represent general tendencies or options rather than consistent sets of policies - let alone obligations - actually encountered in practice.

Leaning Against the Wind

'Leaning against the wind' would, for example, involve responding to a depreciation precipitated by the foreign exchange market by one or more of the following:

official foreign exchange sales in the spot or forward market; an increase in interest rates and/or tightening of monetary targets; limitations on capital outflows; foreign borrowing - each of these designed not to cancel out the market movement but to reduce it. This approach to intervention, described by Cooper and Tosini, 27/ aims to dampen down short term fluctuations and to prevent rapid movements occurring. A further objective could be to ease fears in trading partners about the manipulation of XRs by being consistently 'nonaggresive' in intervention. This approach accepts implicitly the desirability of floating and has both the strengths and weaknesses of any system operating from that premise. It has, however, some weaknesses of its own. The first is the difficulty of determining, ex ante, whether an XR movement is an 'excessive' short term fluctuation or a 'correct' longer term judgement by the market of a rate consistent with balance of payments equilibrium; in the latter case intervention could postpone necessary adjustment. Second, trade partners might construe intervention unsympathetically unless it were made clear that it was symmetrical - that is, as vigorous in modifying down-swings as well as upswings in the XR. However, limitations on reserves for use in breaking a fall in the XR may make symmetry difficult to achieve in practice. Third, the intervention could be destabilising if it were misconstrued by the market, causing a revision of expectations in a perverse direction. For example, intervention to arrest a falling rate could feed the belief that the rate is being defended at unrealistic levels. Alternatively, a failure to 'sterilise' the impact of exchange market intervention on the domestic money supply could have a greater impact on market expectations than the intervention itself. Failure to give clear guidance to the market as to the expected future XR may, according to critics of this approach, merely exacerbate XR fluctuations.

Target Exchange Rates

An approach which is much closer to the old 'adjustable peg' is one in which the national authorities try to stabilise market expectations by defining and seeking to defend a 'target' reference rate within an agreed band. 28/ Monetary policy as well as Central Bank or exchange market intervention would be used to keep the rates within the band, and swap agreements would be used in support to iron out short term flucations. Where

adjustment of the band was judged to be required it would be preannounced and interest rates adjusted to ensure that changes are gradual rather than sudden. The target rate would be set in relation to 'purchasing power parity' though this is easier to define academically than in practice. Despite these difficulties and the absence of internationally agreed procedures, some countries, notably Germany, have tried to maintain a target XR and have subordinated monetary (and fiscal) policy to that end.

The central weakness of the target XR approach - at least in its less flexible forms - is that it incorporates the weakness of fixed XRs; the target may be, or may appear, unsustainable. This is especially the case where the authorities are endeavouring to maintain an overvalued XR. To the extent that the maintenance of the rate depends on the use of reserves it is clearly easier to operate for countries whose currencies are likely to be under pressure in an upward direction; as is the case of Germany. A second, more technical, problem arises in the transition from flexible to the 'target' rate: choosing the 'appropriate' rate.

Finally, the preannouncement and support of an XR reduces the authorities' flexibility in meeting unanticipated transitory shocks, either foreign or domestic. Under a 'fixed' rate the shocks would have to be absorbed into the domestic money supply, requiring offsetting monetary stabilisation. Thus, reduced uncertainty in the foreign exchange market is purchased at the expense of increased instability in the domestic money market.

It would, however, be wrong and inconsistent to imply that a wholly laissez faire approach is to be commended given the evidence of short term XR instability and suggestive evidence that intervention under floating rates has been stabilising. It should be possible for governments to adopt a flexible form of 'target' or 'reference' rate as a publicly declared policy objective without the commitment to heavy and expensive intervention of the kind experienced under pegged rates. To be economically meaningful such an objective would need to be defined in terms of a real effective XR, rather than just a nominal rate.

Capital Controls

Since most short term instability in XRs originates in capital movements, capital controls seem to offer means for individual countries to dampen down fluctuations. Traditionally, capital controls have been used by countries with weak currencies seeking to prevent depreciation by restricting capital outflows. Recent examples of the restoration of exchange controls after a period of exchange liberalisation occurred with Britain in the 1960s and 1970s, France since May 1981 and Italy, France and Japan after the 1974 oil 'shock'. More recently, the attention has shifted to attempts by countries with strong currencies to restrict capital inflows in order to prevent appreciation, usually by reviving restrictions on the freedom of banks to attract foreign currency to non-resident deposits. Germany has restrictions on the sale to non-residents of fixed interest securities up to two years. Japan has traditionally retained a largely closed capital market for foreigners (in 1982 there was an estimated $7bn foreign investment in Japan with virtually no direct investment and $28bn of Japanese overseas investment). Switzerland has also tried to restrict capital inflows; again, apparently, with some success.

The traditional 'market' view of capital controls is summarised by GATT: "at the degree of interdependence the world has achieved by now, there does not seem to be any reliable, politically feasible, method of implementing such controls. Capital movements as such can be controlled only within a comprehensive scheme of direct quantitative controls over all international transactions, merchandise trade in particular". 29/ That is, evasion and fraud and the operation of 'leads and lags' militate against any neat separation between capital flows and goods (the problem is particularly acute in respect of the growing volume of intercompany trade). This does, however, appear an extreme judgement and at odds with the relative success of Japan in insulating its domestic money and credit policies from international monetary disturbances and also the ability of countries such as Switzerland and Germany to dampen down capital inflows while remaining, otherwise, open market economies. A more temperate judgement is pronounced by Argy: "part experience with controls may no longer be a reliable guide to their effectiveness". 30/

A somewhat richer vein of argument concerns the undesirability rather than the infeasibility of capital controls. The first point is that short term capital controls designed to prevent volatility can very easily degenerate into long term controls and in this way disrupt the best deployment of savings. Classic instances are the UK exchange controls of the mid-1960s which lasted until the late 1970s, and the semi-permanent barriers to capital inflow in Japan. It is, however, possible to design restrictions, like those in Germany, which isolate for control the buying (or selling) of short term securities by foreigners (or of foreign assets by residents). Second, there is the argument advanced by McKinnon and others that one source of XR volatility has been the risk averse behaviour of banks and other investors in taking open positions in the foreign exchange markets; a conservatism which is reinforced by capital controls.

In practice the trend in almost all major trading countries - except, at present, France - is to remove remaining capital controls, and to integrate capital markets more fully. Any system of XR stabilisation which relied on capital controls would be flying in the face of a well established trend.

Eclecticism

One reaction to the diversity of XR management policies which has evolved and been given de jure recognition by the IMF in 1978, is to rationalise its merits as a system; one which allows variation based on such country characteristics as openness, capital mobility, external sector diversity and degree of development. It can, in general, be argued that individual countries should choose a policy which involves more rather than less floating if they have a relatively low share of trade in GNP and/or macro-economic policies which are particularly out of line with their trade partners. 31/ A study of XR management in practice also reinforces a priori judgement that "for economies that are highly integrated with foreign capital markets, flexible XRs appear preferable for stabilising output and prices than efforts to stabilise the real XR through monetary policy" but that "exchange controls... may be most effective ... in sheltered economies". 32/

Discussion of the best mechanisms of stabilisation in one country do however beg the question of how effectively one country can act in isolation.

Limits of National Action

There are important senses in which attempts by governments acting independently to reduce variability in nominal XRs are either futile or actually destabilising in the absence of a closer convergence in policy objectives and coordination of policy. First of all, wider inflation differentials are bound to produce greater variations in (nominal) XRs in the long run (and probably in the short run as market expectations affect XRs immediately). This cannot be suppressed indefinitely by market intervention or controls. Second, increased divergencies in interest rates will increase short term XR instability. To a degree, interest rate divergencies merely reflect expectations about future inflation differentials resulting from diverging rates of monetary expansion. However, the position is greatly complicated by some countries pursuing restrictive monetary policies with high real interest rates but expansionary fiscal policies (the USA) and others with the opposite combination (Japan) leading to XR movements in the opposite direction from that indicated by actual or likely current account balances.

The upshot of this discussion is that "on balance, the stability of XRs could be enhanced by a more balanced and coordinated mix of monetary and fiscal policies in industrial countries". 33/ This could be achieved at both a regional and a global level.

III. Regional Approach to Exchange Rate and Economic Coordination: The EMS

The European Monetary System is designed to create "a zone of monetary stability", though it falls well short of complete monetary union. Launched in 1979, as a successor to the post-1972 'snake', the EMS has the following distinguishing features 34/: XR stabilisation within bands of $\pm 2\frac{1}{4}\%$ around central rates which are fixed in relation to a matrix of cross rates; the ecu as a currency for denominating common debts and credits and defining exchange rates; automatic intervention by Central Banks when currency divergencies reach their bilateral limit, backed up by large and automatic currency swaps and also large (conditional) credit facilities; a 'divergence indicator', which has been designed to give an early warning to central banks to take remedial action.

While the EMS is designed to be a fixed rate system, XR changes in response to fundamental disequilibria are not excluded. Once divergence indicators are consistently exceeded and intervention barriers strained, negotiated parity changes are agreed. In essence the EMS combines fixed (but adjustable) XRs within the system with flexible rates outside of it.

Evaluation

The EMS has three basic objectives: the reduction in uncertainty brought about by the elimination of short term XR fluctuations and fewer, more consistent, major changes (ie. a reduction in 'overshooting'); a reduction in inflation; and support for the wider aspects of European economic and political units. 35/

1. Reduced Uncertainty. Some stabilisation of short term fluctuations has occured, attributable to the EMS's influence on market expectations that parities would be maintained and to skilful technical management. Also changes in the parity grid have been infrequent and consistently in the same direction. The advantage to traders of the infrequency and smoothness of these parity changes has been that XR uncertainty is reduced (to the extent that that matters). To set aside the advantage of predictability, however, is the cost of postponing realignments which are overdue (very large sums were spent defending the franc before the latest realignment).

For greater XR stability to become possible on a more permanent basis, however, domestic policies must be so adjusted as to reduce the volatility of expectations and this means a convergence in macroeconomic policy. At first sight there is little evidence of convergence. When the EMS was launched there was a gap between Germany and Italy in inflation rates of around 10%, and this had widened to one of 13% between Germany and both Italy and Ireland in late 1982. Table 2 below shows a more mixed picture: Comparing the years 1979-81 with 1975-78 there has been a regression to the mean in respect of the volume of credit and money supply, though not in respect of interest rates, real or nominal or, yet, of price increases. While there is little evidence of divergence there is little evidence of convergence either. Another study using other indices - current balances and growth of GDP - comes to the same conclusion. 36/ One advance, however, is that habits of consultation and coordination between Finance Ministers have been developed which are leading to a greater willingness to subordinate domestic to international objectives.

TABLE 2

Average and Standard Deviations of Rates of Increase in the Cost of Living and of Monetary Aggregates in the EMS Countries (1)

	1975	1976	1977	1978	1979	1980	1981
Rate of Price Increase (2)	11.54	9.56	9.33	7.04	7.96	10.75	10.74
	(4.16)	(3.78)	(4.62)	(3.81)	(4.31)	(5.24)	(4.74)
Capital Market Interest Rate (3)	9.9	10.13	9.98	9.86	10.84	12.92	15.13
	(1.87)	(2.30)	(3.17)	(3.28)	(3.14)	(3.28)	(3.92)
Real Capital Market Interest Rate (4)	-1.64	0.57	0.65	2.82	2.88	2.17	4.4
	(3.86)	(3.03)	(2.12)	(2.00)	(3.13)	(3.52)	(2.26)
Rate of Growth of the money supply (5)	13.47	13.69	11.08	12.55	10.29	5.97	7.46(7)
	(6.22)	(7.04)	(5.41)	(6.77)	(7.43)	(5.43)	(5.45)
Rate of Growth in Volume of Credit (6)	15.96	18.97	13.23	14.28	13.4	13.0	12.72(7)
	(5.36)	(5.12)	(6.06)	(5.63)	(3.32)	(2.27)	(3.06)

The figures in brackets are the standard deviations.
(1) Excluding Ireland. (2) Cost-of-living index; unweighted average of changes for the last month of each quarter over the same month of the previous year. (3) Unweighted average of current yields of public authority bonds at the end of each quarter in per cent. (4) Difference between the "capital market interest rate" and the "rate of price increase" in per cent. (5) Unweighted average of rates of change in the money stock narrowly defined (primarily cash in the hands on non-banks and the sight deposits of non-banks) at the end of each quarter compared to the same quarter of the previous year, in per cent. (6) Unweighted average of rates of change in the volume of credit outstanding at the end of each quarter over the same quarter of the previous year, in per cent.
(7) On the basis of the first three quarters.

Sources: IMF: International Financial Statistics; OECD: Main Economic Indicators; Wolfgang File and J. Kuhlmann, European Monetary System as a Factor of Integration; Intereconomics, Nov/Dec 1982.

2. Reduced Inflation. One major motivation in the establishment of the EMS was the belief that if European currencies were linked to the German Deutschmark and the mark established a target rate with other major currencies the authorities in the EMS group would come under pressure to reduce their inflation rates to German levels. Pessimists have argued the other way; that Germany would be forced to accommodate to the higher inflation rates of its partners as a result of de facto XR flexibility within the EMS; and that the credit facilities available to deficit countries would introduce an 'inflationary bias'. The evidence suggests that the EMS has simply had no effect one way or the other.

3. European Unity and the Dollar Counterweight. One underlying theme in the high level political support given to the EMS is the belief that it will strengthen the EEC. Linked to this is a belief that it will strengthen Europe in its political and economic dealings with the USA.

There is, however, a specifically economic point here; whether any gains in internal monetary stability within the EEC are achieved at the expense of wider international monetary stability, particularly in terms of relations between the dollar and the EMS zone. One view, widely expressed, is that EMS could - and should - be an 'oasis of stability' which would shield Europe from the vagaries of a dollar whose external movements are regarded by the US authorities as a secondary consideration to domestic monetary management. 37/ An alternative view is that US and the EMS nations have a common interest in both stability and policy coordination since large divergencies in US/EMS zone price levels and interest rates would undermine the EMS by encouraging a movement between the dollar and whichever EMS currency was strong or weak, bringing pressure to bear on parities within the EMS itself. Thus the European Council resolved "the durability of the EMS ... requires a coordination of XR policies with third countries ..."38/ Another optimist is Triffin: "success of the EMS and US/EEC cooperation could break the deadlock ... to restore a workable world monetary order" 39/

Future Developments by the EMS

The benefits and costs are so far minor. It is possible however that the EMS could develop stronger features which would amplify both the benefits and costs. 40/ One proposal yet to be agreed is a European Monetary Fund which could considerably increase swap and loan possibilities linked to the coordination of policies (including loan conditionality) in a more firmly fixed XR system. 41/

An EMF could strengthen the capacity of the EMS to withstand strains but it could, equally, increase the risk of economic costs from postponed adjustment. It would, also, in part, supplement the IMF. 42/ Another proposal is to extend the range of the ecu, most radically to include non-official private transactions. It would, by the same token, imply a substantial commitment to a greater interrelation of monetary and other economic policy. If such developments created greater uncertainty within Europe they might, however, destabilise the dollar by creating an attractive new alternative asset - backed by all European countries - for speculators to switch in and out of. The ecu could also be seen by European countries and Europe's main trading partners as an alternative to the SDR and in this way weaken the demand for a truly international currency.

These are, however, at present, academic questions.

Summary, and Replicability

To summarise: the EMS type of arrangement offers the possibility of reducing short term XR instability to the extent that this is important and costly; it offers especially to small open economies, the advantages of support for a fixed linkage to the currency of major trade partner(s); but its potential as a zone of monetary stability is limited by the extent to which overall economic policies are harmonised (at present, very little); and there is a danger that internal monetary stability is offset by greater instability in external monetary relations.

The possibility of the EMS being replicated elsewhere is small. To the extent that XR stabilisation is important, in general, the EMS is able to contribute to stability because of the high level of intra-group trade (Ireland being an anomaly here). There are few comparable cases. The EMS is also inspired by and, in turn, reinforces a broad commitment to regional unity which is almost unique.

IV. International Monetary Coordination

Since the effective breakdown of the Bretton Woods system several attempts have been made to achieve a greater degree of mutual understanding under IMF auspices about the forms of direct and indirect foreign exchange market intervention under floating rates which minimise short term fluctuations. And at the Versailles summit in 1982 it was acknowledged that the problem of XR instability was inseparable from that of coordinating economic policy since it was divergent monetary policies - inducing capital flows - which lay behind instability. Heavy official intervention, by contrast, dealt with the symptoms rather than the causes of the problem.

IMF Surveillance

The first major attempt to reestablish effective IMF surveillance over national XR policies was made in the 1974 'Guidelines for the Management of Floating Exchange Rates', which was part of the 'Outline of Reform' programme put forward (but not subject to consensus agreement) by the Committee of Twenty. The 'Outline' expressed a general belief in the desirability of "an XR regime based on stable but adjustable par values and with floating rate recognised as providing a useful technique in particular situations". No agreement was however reached on a unified approach to intervention (the 'leaning into the wind' approach or the 'target band') or in drawing up a list of circumstances in which foreign exchange market intervention would be internationally acceptable.

What evolved was a case by case approach to IMF surveillance which has been formalised in the 1978 second amendment to the Articles of Agreement of the IMF. This legitimised the variety of XR practices adopted, by abrogating all par values established under the original IMF rules. It did, however, set out in a new Article 4, a set of obligations in respect of XR policies and a requirement that the IMF should exercise "firm surveillance" over members. In order to clarify the objectives of surveillance, the Fund's Executive Board adopted a set of principles for the guidance of XR policies:

> "A. A member shall avoid manipulating XRs of the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members.
>
> B. A member should intervene in the exchange market if necessary to counter disorderly conditions which may be characterised *inter alia* by disruptive short-term movements in the exchange value of its currency.
>
> C. Members should take into account in their intervention policies the interests of other members, including those of the countries in whose currencies they intervene".

The way in which the IMF exercises surveillance at present occurs through regular Article 4 consultations with members (plus the consultation required under different articles with members which maintain payments restrictions). This is at present extensive but not complete; "The Fund's

goal has been to attempt to cover three quarters of the membership within any 12 month period while maintaining an annual consultation cycle with major countries and with countries that have Fund-supported programmes ... However, the number of consultations per year has declined since 1978/79 while membership has increased. A consultation cycle of 13 months or less has, however, been maintained for more than 40 countries including most of the major industrial countries". There is, in addition, provision for a supplementary surveillance procedure for discussion in national XR policies in particular cases. The aim of the IMF is to widen the significance of bilateral consultation into a multilateral system by making reports available to other members and by including members in the World Economic Outlook discussions.

At present, however, IMF surveillance represents a very weak form of XR discipline in the absence of any clear enunciated view of what type of XR system should be generally adopted (fixed or floating) or of what type of intervention strategy is most effective within a floating rate system. One factor which has made XR surveillance increasingly difficult is the growth in the number of IMF members (from 20% in 1975 to 36% in 1981) operating composite currency pegs, or 'baskets', whose operations are not always transparent. To the extent that surveillance is in any way influential its effects are likely to be asymmetrical, being more effective with deficit countries requiring conditional standby credits. As for policy coordination, the IMF's rôle is currently very underdeveloped; far weaker than, say, the formal and informal consultation which has grown up in the EMS.

Towards Closer Economic Coordination

Economic summits regularly proclaim the need for economic convergence as a means to greater XR and monetary stability. It is, however, far from clear what this would mean in practice. There is no shortage of institutional mechanisms for coordinating policy as between the main individual countries (via the OECD and, within the OECD, the EMS) or more generally (via the IMF). There is no shortage of means of rapid communication. The problem is, at heart, political and centres on underlying differences as to what economies should be converging towards. There are three fundamental points which need to be resolved before any system of closer economic coordination can be made meaningful or useful:

(i) whether the primary purpose of convergence is to initiate action to expand production through increases in demand (the Brandt Report argued that "the dangers of

depression now greatly outweigh those of inflation") or to continue to aim for both lower average inflation rates as well as smaller inflation differentials (the view of the authorities in the US, Britain and Germany)

(ii) whether the underlying objectives should be to make free floating work better (by increasing freedom of capital movements; by reducing the scope for 'dirty' floating) or to move towards greater fixity of rates in both the long and the short run.

(iii) whether 'coordination' of policy with the US should be conducted on the assumption that the dollar should have a greater or lesser role as an international currency in relation to SDRs, gold or a miscellany of national currencies.

In the absence of agreement on these fundamental issues there is something to be said for the present 'messy', hybrid, but essentially floating rate system. But this still leaves us with the problem with which we started, of apparently excessive short term fluctuations (and some large longer term fluctuations) which may impose some economic costs and generate uncertainty. These costs do not seem large but, if they are felt to be, the most useful way forward in the short run which could be made acceptable to the more freely floating economies (notably the US and the UK) would be the use of real effective XRs as a key policy indicator in economic management (though not as a fixed target to be defended). If there were regular and close consultations between the main governments, preferably under IMF auspices, it could be more easily established than at present which governments were pursuing policies inconsistent with (agreed) economically justifiable parities and which merited support in foreign exchange market intervention. And use of such indicators could show up the extent to which controls (on trade and foreign exchange transactions) often widen the gap between nominal and real effective XRs, an illumination that would be welcomed by both GATT and the IMF and bring both somewhat more to the centre of the policy stage.

V. Summary of Conclusions

1. Floating XRs may have deficiencies in practice - notably short term instability - but these problems are likely to be less than would arise from re-introducing greater fixity.

2. Evidence from traders suggests that the costs of fluctuations - in terms of discouraging trade - are not large.

3. Traders in ldcs may have particular problems in utilising forward XR markets. There is no survey evidence comparable to that available in industrial countries and it would be a useful exercise to gather some. But in general the problem of floating XRs - if it is a problem - ranks very low in ldcs' international economic priorities.

4. A variety of techniques exist for national intervention to moderate fluctuations though they are not free from the risk of aggravating instability, and of being inconsistent with other governments' objectives. A flexible system of publicly proclaimed reference rates, defined in real, effective, terms merits further consideration.

5. Capital controls have in the past moderated short term capital flows but can become semi-permanent. The general movement, in any event, at present is towards exchange liberalisation.

6. The regional, EMS, approach to XR stability has some merit, in principle, for countries which trade extensively with each other. It seems to have had some effect in reducing XR fluctuations in Europe but has come under growing strain and has made little progress in producing macroeconomic convergence.

7. Macroeconomic policy convergence between major economies could reduce XR instability. But the obstacles to convergence are political rather than institutional, and stem from different national preference in economic policy. Policy convergence among industrial countries, if directed to yet more 'deflationary' policies, could even be more damaging to ldcs than the costs of current uncertainty about XRs.

1. IMF Annual Report 1982 p.41.

2. Common Crisis, The Brandt Commission 1983, Pan Books, London, p. 43.

3. This begs a major issue: whether exchange rates are determined by inflation differentials or vice versa or both are determined by a third factor (money supply), eg. J. Frenkel 'Purchasing Power Parity: Doctrinal Perspective and Evidence from the 1970s', Journal of International Economics, 1978.

4. GATT concludes on the basis of 1978-79 data: "While nominal exchange rates fluctuated widely after 1973, the estimated real effective exchange rates have been much more stable": R. Blackhurst and J. Tumlir, Trade Relations Under Flexible Exchange Rates, GATT Studies in International Trade No. 8, Geneva 1980.

5. Christopher Johnson, Lloyds Bank International Financial Outlook, February 1983.

6. Results of analysis by the IMF. Annual Report 1982, pp. 45-50.

6A. G.K. Helleiner: The Impact of the Exchange Rate System on The Development Countries: Report to the Group of Twenty-four.
(UNCTAD/MFS/TA/13) April 1981.

7. M. Mussa, 'The Exchange Rate, the Balance of Payments and Monetary and Fiscal Policy Under Fixed and Flexible Exchange Rates' in J. Frenkel and H. Johnson, The Economics of Exchange Rates, Addison-Wesley, 1978. P. Isard, Exchange Rate Determination: A Survey of Popular Views and Recent Models, Princeton Studies in International Finance No. 42, 1978.

8. The point about exchange markets having the instability of 'auction markets' is developed inter alia in J. Artus and J. Young, 'Fixed and Flexible Exchange Rates, IMF Staff Papers, December 1979.

9. M. Friedman, 'The Case for Flexible Exchange Rates', in Essays on Positive Economics, Chicago 1953. J. Meade, The Balance of Payments, Oxford University Press, 1951.

10. J. Artus and A. Crockett, Floating Exchange Rates and the Need for Surveillance, Princeton Essays in International Finance No. 127, 1978.

11. R. McKinnon, 'Floating Foreign Exchange Rates 1973-74: The Emperor's New Clothes' in K. Brunner and A. Metzler, Institutional Arrangements and the Adjustment Problem, North-Holland 1976.

12. T. Willett, Floating Exchange Rates and International Monetary Reform Washington, American Enterprise Institute, 1977.

13. Explanations of instability based on different speeds of adjustment between goods markets and exchange markets come from R. Dornbusch, 'The Theory of Flexible Rate Regimes and Macro-economic Polity', in J. Frenkel, and H. Johnson, The Economis of Exchange Rates op cit: "A major reason for the slower response of goods markets is forward purchase contracting", S. Magee, Contracting and Spurious Deviations from Purchasing Power Parity, in J. Frenkel and H. Johnson, The Economics of Exchange Rates, op cit. There is evidence however that traders have adjusted their pricing behaviour following floating. S. Grassman, 'Currency Distribution and Forward Cover in International Trade: Sweden Revisited, 1973' Journal of International Economics, 1976.

14. IMF Annual Report, 1982, p. 45.

15. Group of Thirty, Foreign Exchange Markets Under Floating Rates, New York: Consultative Group on International Economic and Monetary Affairs, Dec 1980.

16. J. Dreyer, G. Harbeler and T. Willet (Eds.), Flexible Exchange Rates and the International Monetary System, Washington, American Enterprise Institue, 1978.

17. The specific problems of ldcs in this area are reviewed in V. Joshi, 'Exchange Rates and Liquidity', The World Economy, May 1979. G.K. Helleiner, 'The Less Developed Countries and The International Monetary System, Journal of Development Studies, April/June 1974. W.R. Cline, International Monetary Reform and the Less Developed Countries, Brookings 1976.

18. eg. P. Hooper and S. Kohlhagen, 'The Effect on Exchange Rate Uncertainty on the Prices and Volume of International Trade', Journal of International Economics, Nov. 1978.

19. R. Blackhurst and J. Tumlir, op cit, pp. 55-60.

20. J. Burtle and S. Mooney in Exchange Rate Flexibility, in proceedings of a 1976 Conference sponsored by the American Enterprise Institute and US Treasury.

21. P. Oppenheimer et al, Business Views on Exchange Rate Policy, Confederation of British Industry, July 1978.

22. Group of Thirty, op cit. pp 6-7.

23. R. Triffin, 'The Future of the International Monetary System', Banco Nazionale del Lavoro, Quarterly Review Bulletin, March 1980.

24. The evidence is not conclusive either way but rather suggests that the popular view of 'asymmetry' is not well grounded. A.D. Crockett and M. Goldstein, 'Inflation Under Fixed and Flexible Exchange Rates', Journal of Financial Economics, August 1977.

24A. IMF Annual Report (1979) p. 42.

25. See Joshi, op cit, p. 248.

26. V. Argy, Exchange Rate Management in Theory and Practice, Princton Studies in International Finance, No. 50, 1982.

26A. H. Mayer and H. Tuguchi, IBS Economic Paper No. 6.

27. R.N. Cooper, Exchange Rate Surveillance in The New International Monetary System, R. Mandellard and J. Polak (Eds.), 1977. P. Tosini, Leaning Against the Wind: A Standard for Managed Floating, Princeton Essays in International Finance, No. 126, 1977.

28. eg. the OPTICA Plan: Commission of the European Communities, Inflation and Exchange Rates: Evidence and Policy Guidelines for the European Community, Brussels, 1971. Authors of a related idea - the 'reference rate' proposal - are at pains to point out that their suggestion does involve any obligation to defend a peg or aim at a target only to desist from destabilising intervention which would drive the exchange rate outside the reference band. W. Ethier and A. Bloomfield, The Reference Rate Proposal and Recent Experience, in Banca Nazionale del Lavoro, Sept. 1978, based on (by the same authors) Managing the Managed Float, Princeton Essays in International Finance No. 112, 1975; J. Williamson, 'The Future Exchange Rate Regime': Banca Nazionale del Lavoro, June 1975.

29. R. Blackhurst and J. Tumlir, op cit, p. 7.

30. V. Argy, op cit, see IMF Survey No. 29, 1982, p. 373.

31. R. Heller, 'Choosing an exchange rate system' in Finance and Development, No. 2, 1977.

32. V. Argy, op cit.

33. IMF Annual Report 1982, p. 49

34. For background and institutional detail: P. Ludlow, The Making of the European Monetary System, London, Butterworth, 1982; D.C. Kruze, Monetary Integration in Western Europe: EMU, EMS and Beyond, Butterworth 1980.

35. Progress reviewed in S. Page, 'The Development of the EMS, The National Institute Economic Review, No. 102, Nov. 1982; B. Cohen, The EMS: An Outsiders View, Princeton Essay No. 142, June 1981. Articles by R. Masera and N. Thygesen in 'The European Monetary System: The First Two Years, Banca Nazionale del Lavoro, Sept. 1981.

36. S. Page, op cit.

37. O. Emminger, 'A New European Effort', The American Banker, Sept. 25, 1978.

38. Article 5:1 of the Resolution of the European Council.

39. R. Triffin, 'The European Monetary System and the Dollar in the Framework of the World Monetary System, Banca Nazionale del Lavoro, Sept. 1982.

40. B. Cohen, op cit; T. De Vries, On the Meaning and Future of the European Monetary System, Princeton Essays in International Finance 1980.

41. Article by J. Polak and T. Padoa-Schioppa in The European Monetary Fund: International Planning and External Relations, Banca Nazionale del Lavoro, Sept. 1980.

42. R. McKinnon in R. Trezise (ed.) The EMS: Its Promise and Prospects, Brookings 197 .