Twenty-five years of post-Bretton Woods experience: some lessons *

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1. Introduction

By 1971, as many academic economists were predicting the collapse of the Bretton Woods system of fixed parities, others, most notably Milton Friedman, were euphoric about the prospect of a floating system.[1] The main reason for this euphoria was that only with exchange rate flexibility could the benefits of international capital mobility be reaped without sacrificing the freedom of pursuing domestic stabilization goals.[2] These economists argued that a floating exchange rate system was in itself a *sufficient* condition to give unequivocal results and was superior to the fixed parity system prevailing at the time. Yet twenty-five years later there is still no consensus as to the superiority of any one system and 'experiments' with different exchange rate systems abound. The countries of the EU are moving towards a single currency; Argentina and Hong Kong are touting the benefits of a fixed rate system through a currency board; while some advocate a return to the Bretton Woods system of fixed exchange rates and others continue to support a floating system. At the same time, financial crises are ever apparent on the international landscape. It is far from clear to what extent these crises have been due to rapid financial liber-

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* To the extent that this survey contains any good ideas they are invariably due to his teacher Franco Modigliani, but as usual the author remains responsible for any shortcomings.

[1] Writing in June of 1971 (but published in September), we also predicted the collapse and argued for a system of crawling pegs, see Modigliani and Askari (1971).

[2] For details, see Modigliani and Askari (1973).

alization, inconsistent macroeconomic policies or to exchange arrangements. It appears that the experience of the last twenty-five years may have raised more questions than answers. This may be a good time to take stock and learn from that experience.

2. The fixed and floating system experience

The central lesson from the Bretton Woods system was that with fixed parities there is a unique relationship between the domestic price level and the price level in the rest of the world (that is, a unique real exchange rate) which is consistent with freedom of capital movements, balance of payments equilibrium and full employment. Theoretically, countries can simultaneously enjoy full employment and balance of payments equilibrium if they adjust parities to reflect divergences in economic policies, or if they coordinate economic policies so as to achieve a unique price level and *real* exchange rates while maintaining fixed nominal parities. Practically, it may be difficult for governments to know when and by how much to adjust exchange rates, and to determine which policies should and could be coordinated.

Under any exchange rate system, there is an appropriate real exchange rate that is needed to transfer resources from a country with excess full-employment national savings to a country with an inadequate level of savings (at an appropriate common interest rate) – that is, to close what is commonly referred to as the 'resource gap'. In a fixed parity system with capital mobility, a country suffering from unemployment and wage rigidity cannot count on raising demand through lower interest rates, because its domestic rate cannot be significantly lower than those prevailing in the world market. Any significant difference would lead to an outward movement of capital and hence a loss of reserves which could not be tolerated for long. Thus the differential and its duration would have to be limited and would depend on the responsiveness of capital movements to the (covered) interest spread.

Under a flexible exchange rate system with international mobility of capital, an expansionary monetary policy, in theory, will result in a reduction of domestic interest rates and a depreciation of the nominal exchange rate as capital endeavors to move abroad in search of higher returns. Under these conditions, the resource gap is satisfied by an increase in domestic investment (due to lower domestic interest rates) and by the transfer of the rest resulting from higher net exports (due to the depreciation of the real exchange rate). This latter effect (higher net exports) requires a depreciation of the real exchange rate (real exchange rate flexibility) which will occur to the extent that domestic wages and prices are unchanged, or, at any rate, change proportionately less than the nominal exchange rate (real wage flexibility).[3] In the absence of capital mobility, flexible exchange rates would, it was argued, permit countries to adopt a monetary policy that was consistent with full employment and balance of payments equilibrium. These conclusions implicitly assumed that nominal wages were rigid with respect to price changes, at least to moderate changes that might be expected from a limited devaluation (and that foreign trade was a modest share of GDP).

In practice, the results of a monetary expansion may be significantly altered by inflation and exchange rate expectations on the part of investors and speculators. If the expectation of future foreign exchange rates and inflation are inelastic with respect to the spot rate, the spot rate would tend to fall to the point where the expected revaluation makes the expected domestic yield of foreign investment equal to the domestic yield, and the domestic yield to foreign investors equal to the foreign yield (interest rate parity). But if inflationary and exchange rate expectations are changed, the change in the spot rate could be substantially more pronounced. Allowing further for almost perfect capital mobility and a lack of macroeconomic policy credibility as perceived by investors and speculators, the impact on exchange rates of a monetary expansion can be severe in a floating system, and monetary policy may not in the end achieve its expected results in terms of output and employment. An expansionary mone-

[3] While countries have some degree of control over their monetary policy, exchange rates may overshoot their equilibrium levels. Overshooting is a by-product of the fact that asset markets clear faster than goods markets, which implies a wider move in rates to clear asset markets, because when goods markets are near equilibrium, excess demand or supply for money and other financial assets are possible, if not likely. This is rational behavior and does not necessarily mean that speculation is destabilizing.

tary policy may be perceived as a shift in the country's inflation objective, increasing inflationary expectations, and thus resulting in an excessive fall in the exchange rate. The central bank may try to put an end to an over-devaluation by raising short-term interest rates, but it may well find that it must raise them (as well as long-term rates) to a level even higher than that of the starting point. Thus, what may have been gained through additional international competitiveness may be lost, or more than lost, through the higher interest rates. An increase in long-term rates would have a negative impact on investment and on government deficit, which would further increase interest rates, initiating a vicious circle.

3. Some practical lessons

In the case of fixed rates, countries were reluctant to adjust parities as envisaged by the architects of the Bretton Woods system. However, they could not forever resist market forces (be they the result of changing macroeconomic fundamentals or speculation). In the end parities were adjusted, but usually after mounting speculation and financial crises. The reluctance to adjust parities was in large part due to several distinct impediments. Countries were unwilling to devalue because this could be seen by the electorate as a failure of government policies, invariably resulting in defeat of the party in the next elections. When the dollar was clearly overvalued, countries, especially France, were unwilling to revalue because they sought a US devaluation to make the political point that currency misalignments were due to US economic mismanagement. More practically, it was difficult to determine when and by how much to adjust parities. These difficulties, and others associated with fixed rates, would be even more problematic today because of the importance of macroeconomic policy credibility, increasing capital mobility and speculation.

At the same time, policy coordination to alleviate the need for parity realignment was difficult at best. In the first instance, in order to coordinate policies countries must agree on a set of indicators.[4]

[4] Dornbusch and Frankel (1987).

While a number of indicators have been discussed as candidates, inflation and unemployment may be the most prominent. But the G-7 experience has shown that it is politically difficult to agree even on inflation and unemployment targets. Moreover, academic research has cast some doubt on both the benefits and the practical feasibility of policy coordination. It is difficult to agree on an appropriate model of the world economy, and even then it is unclear whether the model is in fact the correct model; the diagnosis of economic conditions differs from country to country, and economic objectives are different among countries.[5] Some have argued that the benefits from policy coordination may be minor.[6] If this were not enough, others have argued that cooperation in monetary policy may even be counterproductive.[7] These practical difficulties of a fixed exchange rate system have been further compounded by the increasing mobility of capital with respect to interest rate differentials.

Although some may have exaggerated the benefits of a floating system early on, there were a few strongly-held expectations.[8] Four of the most important expectations deserve mention. First, countries would be able to pursue an independent course of monetary policy in support of full employment and price stability, and would be insulated from foreign economic disturbances. Second, the movement in exchange rates would more likely be determined by economic fundamentals (purchasing power parity), namely, it would tend to make relatively rigid domestic price levels consistent with the equilibrium real rate. Third, international imbalances would be adjusted through the transfer of resources from countries experiencing an excess of full-employment national savings to countries with an inadequate level of savings. Finally, the increased risk associated with floating rates would lead to a reduction of safe speculative gains, which would in turn result in a reduction in disruptive speculation and thus fewer international financial crises. These expectations might have been largely fulfilled had it not been for massive international financial liberalization (without the proper regulatory and supervisory structure)

[5] Frankel (1987b).
[6] Oudiz and Sachs (1984).
[7] Rogoff (1985).
[8] For listing of ten such presumptions, see Frankel and Dornbusch (1987).

and the problems associated with increasing capital mobility, macroeconomic policy credibility and its associated risk premia, and the downward stickiness of real wages (and to some extent prices).[9]

An additional factor limiting monetary policy independence has been the behavior of real wages. Under conditions of strong real wage rigidity (for example, when labor contracts are formulated in real terms through escalator clauses), monetary policy will be ineffective under *both* fixed and flexible exchange rates because the central bank has no control over real wages. If the exogenously given real wage rates are too high in terms of world prices, unemployment cannot be avoided. If the central bank tries to expand the money supply to reduce interest rates above the real exchange rate, the result will be an inflationary spiral. If the central bank attempts to stop the inflationary spiral, the result will be unemployment; if it accommodates the inflation, the result will be more inflation. Under these circumstances, the country cannot enjoy price stability with full employment. Thus flexible rates (or fixed rates) cannot ensure policy independence if real wages are unresponsive to changes in exchange rates.

Exchange rates have been more volatile than anyone expected. There has been a great deal of short-term volatility and large cyclical movements. During the period from January 1960 to December 1970, for example, the dollar-mark exchange rate variability (as measured by the average standard deviation of three-month changes in percent) was

[9] Macroeconomic policy credibility is essentially the notion that the market demands a risk premia for holding currencies that are issued by countries whose macroeconomic record are not credible. (For a comprehensive survey of policy credibility see Amano *et al.* 1998. The authors define policy credibility as "the extent to which agents believe that policy makers will carry out their announced plan (or in the absence of explicit announcements, the extent to which they believe that current policies will continue into the future)". For a discussion of the empirical issues regarding the quantification of credibility, see Söderlind and Svensson 1997.) Credibility can have a number of dimensions. The most prominent factors, however, are presumed to be past inflation record, size of public deficits, size of public debt, and the degree of independence of the central bank (see Bank for International Settlements 1995, pp. 87-89). Significant levels of historical inflation can be interpreted by financial markets as an absence of political resolve to fight inflation. High budgetary deficits and public debt may be seen as incompatible with low inflation. The BIS supports this assertion by pointing out that there was "a close relationship of the size of the increase in long-term interest rates last year (1994) to both average inflation in the 1984-93 period and government budget deficits" (*ibid.*, p. 87) This observation suggests that credibility is associated with long-term performance and cannot be readily established in the short run.

1.52, as compared to 5.87 during the period from April 1973 to December 1996.[10] Interestingly enough, the average standard deviation of real exchange rates during the same period were respectively 1.79 and 5.86. These facts would indicate that floating rates have not achieved movements in *real* exchange rates that reflect changing economic fundamentals. Daily movements of 1 or more percentage points in exchange rates, weekly movements of over 5 percentage points, and monthly movements of 10 points and more have not been unprecedented. Over longer periods, there have been dramatic cyclical movements. The periods 1979-85 and 1985-90 deserve mention. During the earlier period, the dollar continuously appreciated with a vengeance – from DM 1.7315 at the end of 1979 to DM 3.1800 at the end of 1984. In the latter period, the dollar more than reversed its gains and stood at DM 1.4940 at the end of 1990. Such large cyclical movements in exchange rates over a relatively short time span can hardly be considered desirable to accommodate real resource transfers in response to differences in social yields between the US and other countries. Economic fundamentals do not change so quickly or so dramatically; and empirical results also indicate that exchange rate changes cannot be explained by fundamentals.[11] Our models cannot explain such large movements in exchange rates. While speculation and the sheer size of daily foreign exchange (Fx) transactions may be the cause of significant daily fluctuations in exchange rates, even long-term movements defy explanation. At the same time, such large cyclical movements are likely to involve serious adjustment costs for the real sector.

What have we learned about the behavior of speculation under fixed and flexible rates? Fixed rates essentially lead to linear movements in exchange rates and exchange risk may not be transparent. As economic policies diverge between two countries, pressures build up, large devaluations eventually ensue, inflationary expectations increase and further devaluations bring on a currency crisis. Flexible rates lead to non-linear movements in exchange risk and exchange risk is always

[10] More recently in October 1998, the dollar depreciated by almost 20% against the yen over a two-day period. Such a dramatic change in exchange rates had nothing to do with a change in fundamentals but was due to the unwinding of speculative positions (borrowings in yen). Financial flows, not the real economy, drive short-term exchange rates, even for two currencies as mighty as the dollar and the yen.

[11] Frankel and Dornbusch (1987, p. 12).

apparent. As such there is a presumption that concentrated speculation and currency crises are much less likely under flexible rates. There is no doubt that the sheer size of daily Fx transactions would indicate that speculation in foreign exchange is very large. In fact, the daily transactions (eliminating double counting) are multiples of international trade in goods and services or of international movements of long-term capital.[12] Moreover, contrary to Friedman's armchair theorizing (as opposed to empirical evidence) that speculation must be stabilizing (as destabilizing speculators would be driven out of the market through bankruptcy), Frankel and Dornbusch's survey indicate otherwise.[13]

In sum, although most of the lessons are standard, many of the aforementioned are invariably ignored by policy makers. In the case of a fixed system, adjustments in parity are required from time to time; it may be difficult to know when and by how much to adjust parities, but it is invariably better to do it early and to err as to timing and size rather than to wait for speculators to force adjustments. Although it may be difficult for governments to agree on policy objectives and coordination, it may be still better to do something than to do nothing. The importance of doing something, such as coordinating unemployment and inflation targets, is critical in the face of high capital mobility and macroeconomic policy credibility as perceived by financial markets. A high degree of capital mobility combined with the importance of policy credibility has reduced many of the expected benefits of a floating system. Countries must adopt and sustain consistent policies in order to establish market credibility. For effective economic adjustments, a change in the real exchange rate is what matters. If nominal wages fully adjust to price changes, then there is no room for monetary policy independence under a fixed *or* a floating system. Earlier, many economists assumed that fixed or floating rates were sufficient conditions to lead to specific results. This is not the case. Wage behavior (as well as capital mobility and macroeconomic policy credibility) can reverse standard prescriptions. In the next section, we take a brief look at some recent examples – the operations of the EMS and the move towards a single currency, Italy's recent experience, the Canadian experience, the experience of the CFA Franc Zone and the crises in the countries in East Asia – to further elaborate on some of these realities.

[12] Frankel and Dornbusch (1987, p. 22).

[13] Frankel and Dornbusch (1987, p. 19). Although Friedman's assertion was based on mere theorizing, the issue must be clearly settled empirically.

4. Country and regional cases

4.1. *The European experience*

Given the lessons of Bretton Woods, what measures did the EMS incorporate to safeguard against speculation, financial disruptions and high unemployment (or high inflation)? The EMS band was made wider, the system was made symmetric (intervention was to be done both by central banks at the upper end of the band as well as by central banks at the lower end as opposed to the Bretton Woods system where the US did not have to intervene, and intervention was to be in all EMS currencies), the role of policy coordination was explicitly recognized (the divergence indicator could trigger policy adjustment when a country's policies diverged from the EMS average), and regular meetings of central banks were envisaged to coordinate monetary policies (interest rate and price behavior). Were these safeguards sufficient? *A priori*, there were reasons to question whether any of these measures alone would have been sufficient, but it was clearly 'hoped' that the combination would be enough to achieve exchange rate stability, balance of payments equilibrium, sufficient real economic growth, moderate inflation, and full employment. The overall result has been that Western Europe's economic performance has not lived up to expectations. In comparison to US economic performance, Europe has achieved more rapid productivity growth, but has had output growth and labor force growth commensurate to those of the US.[14] At the same time, Europe has had much faster growth in real wages and therefore lower employment growth (with increasingly larger unemployment), especially in the 1990s. Simultaneously, parities have come under pressure, resulting in speculative capital flows and financial disruptions.

[14] This section relies heavily on Modigliani (1996).

Although the unemployment rate was much lower in the EU than in the US in the 1960s (2.2% versus 5.2%) and in the 1970s (4.2% versus 6.4%), it was significantly higher in the EU during the 1980s (9.6% versus 7.1%) and especially in the 1990s (10.0% versus 6.6%).[15] Some (e.g. Drèze 1995), summarizing a line of reasoning popular in Europe, have attributed this development to supply side factors (union power and rapid rise in real compensation in Europe), with the rise in real wages resulting in a slower increase in employment because of substitution of capital for labor, reduced international competitiveness, and lower investment due to lower profitability. Others (e.g. Modigliani 1996) have argued that the culprit has been insufficient aggregate demand due to very tight German monetary policy, coupled with the fixed parity system and exacerbated by high responsiveness of capital flow to real interest rate differentials and by the increasing importance of policy credibility in financial markets.

The major thrust of the supply side argument is focused on the rapid increase in the EU's real compensation per employee since 1960.[16] While the increase in European real wages since 1960 has been much higher than that of the US, it is not as pronounced in every sub-period; 1970s – 2.9% per year in the EU versus 0.6% in the US; 1980s – 0.9% per year in the EU versus 0.7% in the US; and 1990s – 0.9% in the EU versus 1.2% in the US.[17] Thus, while there has been a significantly higher real wage growth in the EU since 1960, it has not been markedly different since 1980. It is, therefore, not clear that the higher unemployment rate in the EU (relative to that in the US) has been caused by more rapid growth in real wages during the 1980s and 1990s.

[15] In fact the unemployment rate in the EU has been consistently higher than that in the US in every year since 1983; it is noteworthy that from 1979 to 1985, the US dollar appreciated by roughly 100% against the major European currencies. The data in this section on the European experience has been taken from Modigliani and Askari (1997b).

[16] While this is the major argument for the supply driven position, others are *i*) generous welfare provisions for the unemployed and high taxes to cover social programs, resulting in a narrowing spread between take-home pay and unemployment benefits and thus a reduction in the incentive to work; *ii*) the role of the long-term unemployed; *iii*) mismatch of available jobs and skills; *iv*) loss of jobs to developing countries; *v*) effect of minimum wage; and more. Modigliani (1996) has refuted all of these with the exception of the minimum wage which would be unlikely to account for such a significant difference between EU and US unemployment rates.

[17] Thus while there has been a significantly higher real wage growth in the EU since 1960, it has not been markedly different since 1980.

Even if rapid growth in real wages could be the cause of the high unemployment rate in Europe, rapid productivity increase in Europe could in fact have more than offset this negative effect on employment. As Modigliani has pointed out, there is an often forgotten identity which explains the change in the real wage rate:[18]

$$\Delta \text{ real wage rate} = \Delta \text{ productivity} + \Delta \text{ labor share of income.}$$

For the EU aggregate, the share of wages in output was largely stable over the 1960s, indicating commensurate real wage and productivity growth; during the decade of the 1970s, the share of wages increased by 1.3% over the entire period, indicating that real wages grew faster than productivity; decreasing by 2.4% in the 1980s, and by another 2.1% from 1991 to 1995, indicating that real wage grew systematically less than productivity; and this phenomenon has been even more pronounced in the 1990s. On the basis of these facts, it is not clear that rapid real wage growth has been the cause of Europe's high unemployment rate.

These same observations are further supported by real unit labor cost figures. From 1980 to 1995, the real unit labor cost has declined from 100 to 86.4 in the EU, whereas in the US the decline was to 99.2. A high level of real labor compensation does not go hand in hand with a high unemployment rate. Moreover, the country with the highest increase (as opposed to the large decrease for the EU as a whole) in unit labor costs in the EU, Luxembourg, had the lowest unemployment rate in the EU; and the UK, which had the second worst record in unit labor cost, had the third lowest unemployment rate.

In Europe one thing is clear, output has not grown fast enough to absorb the growing labor force. Simply stated:

$$\Delta \text{ potential output} = \Delta \text{ productivity} + \Delta \text{ labor force.}$$

The crisis of high unemployment in the EU is due to the slow growth of output, at a rate far below its potential growth. The slow growth in output can, in large part, be explained by insufficient aggregate demand. The low level of aggregate demand, in turn, is due to tight monetary policy (resulting in high real interest rates and dampening investment) emanating from Germany's tight policy and the

[18] See Modigliani (1996).

commitment to maintain fixed parity to the DM by some EU countries, especially France with its 'Franc Fort' policy.[19] The decade of the 1990s, characterized by essentially fixed parities and little or no coordination of monetary policies to achieve acceptable levels of employment, was a difficult economic period for the EU. Coordination of monetary policy is in the end translated into the pursuit of similar price and wage policies; similar price policies are akin to similar wage policies given the close relationship between wages and prices.

4.2. *Italy*

The recent Italian experience further confirms the above lessons and also shows the important relationship of wage behavior to policy options. In the case of Italy, nominal wages were fortunately quite rigid beginning in mid-1995, a circumstance which provides the most favorable circumstance for floating and devaluation in addressing the unemployment problem. Up to 1992, the Italian unions had been an engine of high inflation and rising unemployment, imposing tight escalator clauses in wage contracts and pushing for real wages that gradually priced Italian labor out of the world market. But in 1992 and 1993, Italian unions suddenly became concerned with inflation and unemployment and had the wisdom to discard the escalator clauses and to accept contracting in nominal terms, agreeing to fairly modest growth of nominal wages over the next three or so years. This happened just before the country was forced out of the EMS parity by a huge speculative wave; it was easy to see that it could not enter the new single currency system without an appreciable devaluation after the lira had been increasingly overvalued in real terms during the previous years.

After a short attempt at re-entering the EMS with a somewhat lower exchange rate, and with punitively high interest rates, Italy began floating. Domestically, there was a strong devaluation party led by Bruno Visentini and Confindustria and internationally there was the prodding of Rudy Dornbusch. The central bank allowed the Italian lira to devalue deeply, on the order of 30%. When Italy left the

[19] While supply factors, especially the minimum wage, could have contributed somewhat to this result, demand (monetary and fiscal) is also a prime candidate (see Modigliani 1996).

system, the Bundesbank was still pursuing a very tight interest policy. In an effort to attract capital to finance the current account deficit, Italy had set rates appreciably higher at around 14%. It was hoped that by floating and being prepared for a substantial depreciation, it would be possible for the central bank to achieve lower interest rates. But Italian macroeconomic policies were not credible in financial markets. Thus interest rates remained extremely high till the middle of 1993. They then declined. This was caused by a decline in foreign interest rates; the nominal interest differential with the DM did fall a little, but even that partly reflected a substantial decline in the Italian rate of inflation relative to the German rate. The differential between the real rates remained at around 2 percentage points from 1994 to 1996, with most of this risk premium reflecting a perceived exchange risk because issues of Italian government debt denominated in strong foreign currencies (and therefore carrying no exchange risk) were only at a small premium (sometimes 20 to 30 basis points) to that of the local government. Only in 1997 did the nominal spread on long-term bonds decline to as low as 150 basis points, with the real spread even lower, but this was, in good part, because of the sharp decline in inflation and the stern financial measures achieved by the new Italian government. These measures convinced the market that Italy, after reentering the EMS, would be able to enter the fixed-rate system of Maastricht from the beginning, by which time Italian interest rates would be down to the German level.

Floating enabled Italy to secure an enormous improvement in its current account balance, as a series of lucky circumstances caused wages and prices to respond only marginally to the large devaluation, thus turning the nominal devaluation into a real one. The effect of the real devaluation was extremely positive, enabling the country to move from a very negative to a strongly positive current account balance, both permitting the repayment of the debt accumulated during the period of overvaluation and providing support for employment. But, unfortunately, this gain was offset by the high nominal and real interest rates caused by the devaluation-induced inflation (though moderate) and to the devaluation-induced exchange risk premium. This resulted in continuing large government deficits (as the government accounting and even the market did not make the appropriate inflation adjustment), higher insolvency risk premia (in a typical vicious circle), and chilling effects on investment. On balance, unem-

ployment remained as high as it had been in the period of exchange rate overvaluation, though this can be regarded as somewhat of a success, as unemployment in the rest of the EMS gradually rose to the Italian level.

4.3. *Canada*

The Canadian experience clearly shows that medium-sized economies have little room for policy maneuver in a floating system accompanied by risk premia (for policy credibility) and almost perfect capital mobility. During the period between 1993 and 1996, Canada had a lower inflation rate and a larger output gap than did the United States. On three occasions, the Canadian authorities tried to move Canadian short-term interest rates down below those prevailing in the United States. On at least two occasions, exchange rate pressures, emanating from political and fiscal uncertainty, forced the authorities to reverse their position and in the end to *raise* short-term rates significantly.[20]

4.4. *The CFA Franc Zone*

The central bank of the West African states and the bank of the Central Africa states issue their own respective CFA franc; thus within each region there is a common currency.[21] The central bank of each region pools the external reserves of its member countries. In turn, each central bank maintains a fixed exchange rate to the French franc and promotes currency convertibility into the French franc with little or no restriction on international transfer and payments on current transactions. During the period 1977-85, while the French franc depreciated, the economic performance of the CFA countries was superior to those of comparable countries in sub-Saharan Africa as regards overall economic performance. But in the post-1985 period, two simultaneous but opposite developments – the appreciation of the French franc, due to the 'Franc Fort' policy, and substantially lower prices for commodities (deterioration of the terms of trade) – resulted in serious structural distortions in the CFA countries.

[20] Bank for International Settlements (1996, p. 68).
[21] See Modigliani and Askari (1997b) for further details.

During the period 1986-89, the real effective exchange rate of the entire group of CFA countries appreciated by 5.9% while the terms of trade declined by 29%. At the same time there were large and significant divergences among the countries in each of these indicators. For the terms of trade, Benin experienced a 57% adverse movement while Burkina Faso saw no measurable change. For real effective exchange rates, Cameroon experienced a 33% appreciation, while Niger had a 25% depreciation. The overall external deterioration required overall structural adjustments and at the same time divergences between the members required intra-block-adjustments. These divergences were in large part due to the fact that the goods exported and imported by each country are different (affecting the terms of trade), the share of trade with France and with other countries are dissimilar, and inflation rates are different amongst the countries (affecting real effective exchange rates). In retrospect, it is clear that countries were not committed to policy coordination with France and with each other given the size of divergences in real effective exchange rates.

In sum, while fixing to the franc and their special arrangement with the French Treasury afforded these countries savings in the form of external reserve requirement and forced monetary discipline, when they were confronted with two external developments – substantial appreciation of the French franc and a major deterioration in the terms of trade – they were unable to adopt necessary policies which would have further increased unemployment. Fixed parities and support from the French Treasury postponed the required real adjustments. The loss of international competitiveness and divergent policies amongst the CFA countries resulted in distortions. Structural and macro-economic adjustments were postponed for a time with substantial costs in foregone output but eventually massive adjustments had to be accepted in 1994.

4.5. *East Asia, Russia, Latin America*

The essential facts of the Asian crisis of 1997-98 have been as follows. Financial markets in Asian countries were liberalized to attract capital inflows and real resource transfers in order to support rapid economic growth. A substantial proportion of the inflows came in the form of foreign bank lending. Foreign banks did not consider what their loans

were financing. Instead they justified their loans on the basis of broadly sound country economic fundamentals and the expectation that the loans (in dollar terms) were implicitly guaranteed by the respective governments. To differing degrees the borrowing in these countries was by local banks (70% in South Korea and roughly 40% in Malaysia, Thailand and Indonesia) and the balance by non-banks. Domestic banks borrowed at a significantly lower interest rate abroad and their assumption that exchange rates were essentially fixed for the foreseeable future led them to assume that there was no foreign exchange risk. The banks in the affected countries financed purchases of land, buildings, shares in the stock market and unprofitable expansion by local conglomerates. The local banks were encouraged in this excessive lending frenzy because they had a large interest spread (domestic lending rate minus dollar borrowing rate from abroad), they assumed no exchange risk and they did not assess the risk associated with projects that they financed as they felt they would be bailed out (moral hazard). Their balance sheets 'appeared' sound as long as the prices of land, rents and stocks continued to rise and exchange rates were fixed.

The crisis started with Thailand and rapidly spread first to countries in the same geographic region and later to other regions of the world. Krugman (1998) in his explanation relies heavily on moral hazard and the conjecture that local institutions were not encouraged to focus on expected returns but instead they picked the riskiest investments with lower (and sometimes even negative) expected returns. Stiglitz (1998) focuses on bad private sector investment decisions in the countries. With the onset of a major bankruptcy, foreign banks would not continue to roll over short-term loans, much less extend new loans to local banks and non-bank borrowers, resulting in capital outflows. At the same time locals exerted further pressures by exporting their own capital before it was too late. The crisis country's Fx reserves were a fraction of the short-term external debt that was maturing and of the indigenous M1 or M2 money supply.[22] The country was thus engulfed in a financial crisis. Foreign banks took a look at other countries in the region and determined that their lending to other countries was tainted by some of the same symptoms. They

[22] In mid-1977, South Korea's short-term debt was over 300% of its Fx reserves, while the figure for Indonesia and Thailand was approaching 200% (BIS statistics).

thus halted their lending to these other countries. The crisis became 'regional'. Speculators placed their bets and speculation speeded up the whole process.

While the crisis is in large part a banking problem, attributable to the absence of adequate prudential and regulatory supervision, excessive borrowing from abroad and the financing of questionable projects by banks, exchange arrangements have also made their contribution to these adverse developments. The manifestation of the problems was excessive short-term capital inflows and it is somewhat a matter of semantics whether better supervision or capital controls should have been the solution (as both could have reduced foreign borrowing). Countries essentially pegged their currencies to the US dollar. While the authorities might have tried to control capital flows (essentially inflows), they did not. The door to capital inflows was left fully open. This coupled with implicit government exchange rates guarantees (under essentially fixed rates) encouraged excessive foreign borrowing (at lower foreign interest rates), especially short-term borrowing. These policies sowed the seeds of economic instabilities that ensued. Currencies became increasingly overvalued, both because of the appreciation of the US dollar relative to the yen (while Japan was a major market for their exports) and the lower rate of US inflation.[23] The overvalued currencies exacerbated trade balances (already affected by slow growth in Japan) and resulted in current account deficits that were not sustainable. Unfortunately the current accounts had been largely financed by short-term debt as opposed to FDI. The clear signal to international financial markets was that to the extent that the combined foreign exchange resources of the central bank and financial institutions was significantly less than the maturing short-term debt, institutions could not honor their foreign obligations and thus speculation was a reasonable bet.

Countries clearly forgot the difficulties associated with a fixed exchange rate regime; and as their economies heated up, the fixed ex-

[23] Sachs (1997, pp. 234-36) stresses the problematic role of fixed rates in the East Asian crisis. He compared the percentage year-over-year changes in nominal exchange rates of South East countries to that of European countries for the period August 20, 1997 over August 20, 1996; August 20, 1997 was during the so-called currency crisis but not at its peak. His results are that depreciation (relative to US dollar) had been significantly higher in Europe. Thus the size of the depreciation in the Asian countries was dramatic only in that it occurred over a short time period.

change rate limited their ability to raise domestic interest rates. Moreover, while they might have been able to at least partially control capital inflows, they did not consider the fact that they would have even less control over capital outflows. Some of the debate surrounding the Asian crisis has been focused on the role of international institutions. Some argue that if international institutions had not bailed out creditors in the Mexican crisis and if they had made it clear that there would be no future bailouts, then private markets might have assessed lending risk more correctly. Others argue that private markets do not appropriately assess international lending risk no matter what.[24] Whatever the positive or negative role of international institutions in the Asian crisis, exchange rate arrangements, the implicit and explicit judgement of cross-border risk assessment and inadequate supervisory oversight have been at the center of the currency crisis that ensued.

In sum, in looking at all these cases, it appears that countries have forgotten the simple lessons of the Bretton Woods era. The problems of fixed rates have been exacerbated by increasing capital mobility and financial liberalization. Floating rates have not lived up to all their theoretical expectations, again largely due to increasing capital mobility and financial liberalization. And finally one exchange rate system may not be the best regime for all.

5. Measures to patch up the system

To repair, or even to patch up, the international payments system one must first agree as to its existing problem(s) or shortcoming(s). While

[24] Simply said, the argument is as follows. Private investors or speculators (banks, institutional investors and individuals) do not have the basis, the information (especially the inadequacy and the time lag of short-term capital flow information) and the tools to assess all the political and economic risks of investing in foreign markets (with the possible exception of Canada and Western Europe). They go on investing almost in a vacuum. The crisis is then sparked when a high profile investor (speculator) withdraws his or her funds. Then the herd instinct takes over, everyone wants to repatriate their funds and the currency collapses. Investors (speculators) lose some appetite for risk, similar markets go through the same turmoil. Eventually investors (speculators) lose all appetite for risk and a global financial retrenchment ensues.

several problems with the floating system have been noted, the most significant shortcoming has been the inability of countries to pursue an independent monetary policy and thus to establish interest rates that would better serve local economic conditions. If the main problem with the current system is seen as the inability to conduct independent monetary policy, there are a number of available options (depending on the reason as to why monetary policy independence is not possible – rigid real wages, speculation, policy credibility, and the role of policy coordination).

5.1. *Rigid real wages*

Under a floating system, the simplest case where independence in the conduct of monetary policy is not possible is when there are full wage adjustments to price changes, as with wage escalator clauses (this is also the case with fixed exchange rates). Under such circumstances, the solution is for the government to persuade labor unions that jobs will not be created, but that unemployment and higher prices will ensue instead. A long-term political compact is essential to establish a system of nominal wage adjustments.

5.2. *Speculation and policy credibility*

If the absence of macroeconomic policy credibility coupled with aggressive speculation is the reason for the absence of monetary policy control, then the best way to address the problem would be to adopt measures to reduce speculation and to improve policy credibility.

Broadly speaking, the reduction of speculative capital flows implies the adoption of some form of impediment to capital flows. However, there is a general presumption that capital flows have been a major factor in rapid economic growth in emerging markets and that the more efficient allocation of capital on a global basis has been to the benefit of recipients and investors. On the other hand, others argue that capital controls allow a country to adopt a monetary policy (interest rate structure) that better suits its domestic macroeconomic conditions and insulates it from the volatility and uncertainty that are associated with speculation. While the debate normally focuses on the benefits of capital flows versus the costs of capital con-

trols, it is also generally recognized that it is difficult to enforce capital controls.

Theoretically, the desirability of unimpeded capital flows is difficult to deny, yet other supportive policies should be in place if a country is to reap the benefits while minimizing the costs. At a minimum, a number of other policies are needed: consistent macroeconomic policies, sound regulation and supervision of the banking sector, competition in the financial sector, and respect for commercial laws and their fair enforcement.[25] These elements cannot be decreed or put into place overnight but take time and deliberate effort.

To the extent that countries need to buy some time to develop the necessary supportive policies for the free flow of capital, some form of capital controls may be contemplated.[26] While capital controls can be on inflows as well as on outflows, in practice they are usually only on inflows.[27] Ironically, countries usually think about capital controls principally when they face a crisis. At such a time what the authorities want to control is the outflows, while needing more inflows. But as they impose controls on outflows, they further frighten investors and thus the much needed capital inflows. Moreover, the damage (on the country's image in financial markets) of imposing controls is likely to be long term. Thus if controls are needed for a transition period it is better to impose them when the economy is strong and foreign investor confidence is high.

There are a number of proposals for capital controls. The best-known proposal for capital controls (to reduce speculation) is an international tax on Fx transactions.[28] It is argued that the tax would

[25] A simplistic and quick indicator of competition in a country's financial sector maybe the degree of foreign ownership in its banking (and other financial services) sector. In many emerging markets, the authorities have removed capital controls – one dimension of openness – while strictly prohibiting competition from abroad – another dimension of openness. Sadly, in many instances the absence of competition has resulted in unsound banking practices and incestuous relations.

[26] Capital controls are restrictions on transactions that affect a country's capital account (basically foreign direct portfolio investments) or in other words these are restrictions on the movement of assets across national boundaries. Exchange controls are broader than capital controls in that they can also affect expenditures on imports and exports.

[27] An important and practical reason is that invariably capital outflows are critical to asset holders in times of panic; in such a situation, they will do anything to get their money out (necessity is the mother of invention).

[28] Tobin (1978) and more recently Tobin (1997).

have a negligible impact on trade and on long-term capital flows because it would assess financial transactions depending on their duration. The basic impact of such a tax is increased financial market segmentation and thus greater policy autonomy, assuming that short-term speculative flows are largely counter-productive. While there are a number of objections to such a tax, the major problem is that of enforcement. Another proposal which essentially achieves the same result is dual exchange rates as proposed by Modigliani and Askari in 1973[29] and more recently by Dornbusch.[30] In this proposal countries would use a fixed rate, or a crawling peg, for commercial transactions and a flexible rate for all capital account transactions. There are at least three objections to this proposal. By decoupling capital transactions (with a floating rate), the volatility of the floating rate may become even more pronounced; one could argue that there is little cost with this because the real sector is unaffected. By adopting a fixed rate for commercial transactions, monetary policy independence is lost; to the extent that the rate of crawl is significant, then this objection will be of less importance. Third, it remains true that with fixed parities we lose the benefit of international capital movement in that such movements are determined by the size of the current account instead of the size of the current account being determined by desirable movements of capital.

The contrasting policies towards financial liberalization and capital flows can be seen in the recent experience of East Asia and of Chile. The East Asian countries essentially opened up their financial markets (to capital flows but not to foreign competition) while Chilean authorities retained some degree of control over capital inflows (but allowed foreign competition). The basis for Chile's capital control policy was that short-term capital flows could move out much faster than they moved in and as a result spark a financial crisis. Thus Chile used a variety of measures to discourage short-term capital flows; 30% of non-equity capital inflows had to be placed in a non-interest bearing account for one year at the central bank; Chilean financial and non-financial corporations could only borrow from abroad only if they received a credit rating (from two agencies) as

[29] Modigliani and Askari (1973, pp. 8-9).

[30] Dornbusch (1986).

high as that of the Chilean government; and no foreign capital inflow into Chile could be repatriated in less than one year. While some policy makers (Summers) believe in unrestricted capital flows plus supporting policies (sound banking regulation and supervision, consistent macroeconomic policies and so on), others (Stiglitz) support some restriction on short-term flows regardless of the soundness of government policies.[31] Stiglitz gives an interesting analogy. He likens current international financial conditions to rough seas, where small boats would be in danger no matter how sound the boat. Financial markets in small open economies are thus more vulnerable than in a large country such as the US. Interestingly, while Chile is invariably held up as the developing country with the most innovative market-oriented policies, it is simultaneously the country that imposes significant restrictions on short-term capital flows. No one argues that sound policies are not universally desirable but a number of noted economists (Tobin being one of the earliest) are now advocating some measure of restriction towards short-term capital flows to protect even the 'soundest' economy from financial crises.

At the same time, others question the success of Chile's controls.[32] It is argued that capital controls are only a partial reason for Chile's sound overall performance and that the major factors are consistent macroeconomic policies coupled with an efficient bank regulatory and supervisory framework, and a healthy level of competition. The reasons for these assertions are that capital controls have shifted the composition of inflows towards long-term flows; a reduction in the overall size of inflows has not been significantly affected and as a result real exchange rate behavior has not been significantly altered. At the same time it has been argued that controls have increased the cost of capital significantly in Chile relative to that in similar countries, thus reducing the major benefit of capital mobility.

To the extent that speculation remains strong, macroeconomic policy credibility takes on added importance. We still need further empirical work as to how markets assess macroeconomic credibility to know when speculators will weigh in – an early warning system to alert policy makers to speculation. As mentioned earlier, the BIS states the view that historical rates of inflation and government

[31] *The Economist* (March 14-20, 1998, p. 88).
[32] Edwards (1998).

budget deficits are the key elements.[33] This clearly suggests that policy credibility is earned with long-term performance. It is curious, however, that the BIS concludes that only inflation and budgetary record are the key factors. Surely, unemployment, economic size and size of a country's financial markets also affect credibility.

Countries have tried to bring down inflation and establish credibility by reintroducing a fixed exchange rate with a major country, typically the US, possibly through a 'currency board' Hong Kong style.[34] This approach is appealing because with a fixed exchange rate the domestic price level must eventually fall in line with that of the 'anchor country', enjoying a zero or at least a low rate of inflation. Although the specifics of the appropriate fixed system to curb inflation is open to debate, the success of this approach has been spotty at best.[35] The reason for this checkered success is simple.

Though competition from the anchor country must eventually stop or even reverse the inflation, wage and price inflation can only decline gradually because of sluggish and lagged responses. As long as inflation remains significantly positive it remains higher than that of the anchor country, and this generates at least some of four negative consequences: *i*) the real exchange rate, which is usually overvalued to begin with, becomes more and more overvalued – even if at a decreasing rate; *ii*) as a result, exports fall and the current account balance gets more and more negative, reflecting also the increase in foreign debt service; *iii*) the endeavor to maintain the level of the money supply while inflation is ongoing, plus doubts as to how long the fixed exchange will hold, lead to extremely high real interest rates which, together with the low profitability due to overvaluation, undermine investment; and *iv*) the cut in net exports and investment, together with multiplier effects, lead to growing unemployment, which might help to cool off wage and price inflation, but will not eliminate it in a short period of time. At some point the country may be forced to abandon its fixed parity and to let the exchange float sharply down, at

[33] Bank for International Settlements (1995, pp. 87-89).
[34] Some of the other countries that have used this approach include Argentina, Chile, Israel, Mexico and Peru.
[35] The different approaches include adoption of a fixed rate through official dollarization, fixed rates (with or without institutionalization by means of a currency board), and a crawling peg system. For a discussion of country experiences see Liviatan (1992).

which point the inflationary spiral will take off again. All along it must be remembered that this approach is nothing but a special variant of a simple fixed exchange rate and as such the country gives up control over its monetary policy.[36]

The experiences of Argentina, Chile and Mexico represent contrasting experiments with this approach to price stabilization. Chile and Mexico – and initially Argentina – adopted fixed parities with continuous adjustments (that is, a crawling peg or 'tablita'), while Argentina more recently adopted the purest case of fixed rates. In the Chilean and Mexican experiments the government adopted a predetermined nominal exchange rate to reduce inflation, ignoring the impact on the real sector.[37] The Chilean and Mexican approach did not result in the convergence of inflation, with the consequence that real exchange rates became increasingly overvalued, leading to a loss in competitiveness.[38] Argentina's program (instituted in the Spring of 1991), on the other hand, resulted in deflation and a rate of inflation that has been below that of the United States. Argentina's success was due to the government's strong political base with the labor unions, which, in turn, helped restrain wage increases, thus arresting the inflationary spiral; an earlier military government could not force union acquiescence and was therefore unsuccessful. More recently Argentina has floated the idea of replacing its currency with the dollar; this will accentuate the problems of its central bank acting as a lender of last resort; and it will further frustrate economic policies as domestic economic expansions and contractions will become further pro-cyclical to that of world.

More generally, and as demonstrated in the South East Asia crisis of 1997, anchoring to a single currency (in this case largely the US dollar) may result in the currency becoming increasingly overvalued relative to the currency (yen) of a major trading partner (Japan). This happened because of the significant depreciation of the yen to the dollar. The impact of the effective appreciation of South East Asian currencies against the yen was increasing balance of payments deficits, which in turn invited speculative attacks on these currencies.

[36] More generally, it should be also noted that the adoption of a strict currency board system reduces the ability of a country to bail out its commercial banks and act as a lender of last resort. At the same time, financial transparency is essential for such a system to be credible.

[37] See Edwards (1996).

[38] For discussion of the Chilean and Mexican experience, see Dornbusch, Goldfajn and Rodrigo (1995). Edwards' (1996, p. 180) estimates indicate that in both Chile and Mexico there was no "discernible decline in the permanent component of inflation differences after the adoption of the exchange rate based stabilization program".

5.3. *Policy coordination*

Although total monetary policy independence may be the goal, coordinated monetary policies may be the best practical solution that is available. Economic policy coordination (through organs such as the G-7 or the IMF on a broader scale) is the most talked-about option to reduce the distortionary effects (such as costly resource adjustments and movements towards increased protectionism) of large and inexplicable long-term exchange rate movements.

As mentioned earlier, however, it has proven difficult for politicians to agree on what to coordinate (prices, unemployment, interest rates, and so on). Others have even questioned how policy affects the external sector.[39] While technical questions concerning policy coordination abound, it would seem that coordination on inflation and unemployment could but only help if politicians were to compromise on a trade-off between the two, or even agree on which countries should make the adjustment (an issue in all bilateral and multilateral arrangements). After all, countries in the EMS have implicitly agreed to do much more. They have followed Germany, while more cooperation would have been without a doubt more productive.

Another avenue of cooperation to eliminate excessive longer-term exchange rate movements is found in Williamson's Target Zones.[40] Countries would agree essentially to a target for a real exchange rate. There would be band around this rate, thus resulting in a zone. Simultaneously, there would be an agreed target for minimal growth of world demand. Intervention, short-term interest rate policy and fiscal policy would be used to maintain real exchange rates within the zone (compatible with the target growth rate of world demand).

The problem with this proposal is the same as that with other forms of coordination on cooperation mentioned above. Moreover,

[39] Frankel (1987b).

[40] His original proposal was contained in Williamson (1985). This was later refined in Williamson and Miller (1987).

the more complicated the cooperation, the less likely that it will be enforceable.

Finally, as always, there are a number of simple and more sophisticated monetarist rules to reduce excessive exchange rate movements. The problem with any of these is that one loses discretionary policy options. While most economists focus primarily on fixed or floating rates, it may be useful to visit the arguments for a single currency arrangement and then to revisit the attributes of our earlier crawling peg suggestion.[41]

6. The single currency option

At times of serious financial crises, radical suggestions are invariably forthcoming. During the Asian crisis, the idea that best fits in this category has been a proposal for a handful of regional single currencies in the spirit of the euro. While such a proposal may enhance the likelihood of financial stability, it is doubtful that there are many regions that would qualify as optimal currency areas.

A single currency among a group of countries is akin to permanently fixed rates (with no bands around parity) with no possibility for future adjustments in parity. The clear attraction of a single currency for a large economic area during a period of financial upheaval is the expectation that overall currency volatility and speculation would be reduced (reduced with countries outside the single currency and eliminated between the countries within the area). While this may be the case, the prevailing pain associated with volatilities of 1998 is not by itself a signal that a single currency is an appropriate solution. What are the simple arguments for and against a single currency?[42]

A primary benefit of a single currency is the gain from the savings associated with the cost of currency hedging, and increased trade and capital flows for the countries adopting the single currency; the

[41] Our proposal was originally contained in Modigliani and Askari (1971). The proposal was further developed with the propositions proved and analyzed in Modigliani and Askari (1973).

[42] See Modigliani and Askari (1997a).

single currency promotes trade and capital flows between the participating countries by eliminating currency (differential inflation) risk and currency transaction costs. Second, and following from the first, increased trade and capital flows will support more efficient plant sizes, resulting in benefits from economies of scale, learning by doing and other related gains in efficiency. Efficiency will be enhanced in capital markets. Third, the single currency may also increase labor mobility within the region. Essentially these elements improve resource allocation within the region. Fourth, a single currency, representing a much larger unified economy than that of any one of the members individually, will be a more stable currency and will encourage further the region's trade (and investment) with the rest of the world. Fifth, to the extent that the single currency represents a significantly larger economic bloc, it may become attractive as a reserve currency and afford the member countries the benefits of seigniorage.

The foremost cost of a single currency for the participants is that individually they will lose control over their monetary and exchange rate policies. Countries will be faced with the problems associated with asymmetric shocks. In an individual country, the adjustments to economic shocks will become much more difficult and fiscal policy would become the singular instrument of macroeconomic policy. The exacerbation of unemployment/inflation among regions may be ameliorated through labor mobility and fiscal transfers. Thus the size of the costs of a single currency turns largely on the degree of labor mobility within the unified region and on the degree of fiscal latitude granted to both the central and regional authorities. At the same time it should be noted that in the period leading up to the adoption of a single currency, the drive towards convergence between the economies may entail substantial economic costs.[43]

Are there a number of regions that are credible candidates for a single currency? The US has it; Europe is getting it. Canada could possibly join the US. Political considerations, if not economic ones, render single currencies for other regions an unlikely short-term solution. The two obvious candidates are Latin American and East Asia.

[43] In the case of Europe, it could be argued that the period between Maastricht and introduction of euro, the tight monetary policy and fixed exchange rates that were essentially dictated to all would-be members was a prime reason for the historically high levels of unemployment and the resulting loss in output.

But it is far from evident that these regions are optimum currency areas and that a single currency is desirable for these economies. At the same time, there may be tendencies towards protectionism within such blocs. All in all, the single currency suggestion seems to get its life blood from good US economic record and the current global financial crisis but with little regard for economic and political compatibilities of countries within regions.

7. The case for crawling pegs and what will work for whom

In 1965, Williamson, among others, put forward the idea of a crawling peg system to replace the fixed rate Bretton Woods system prevailing at the time.[44] In those days, it was generally believed that generalized floating would be politically unacceptable as governments wanted some form of fixed parities. Countries for which trade was a large portion of GNP were especially reluctant to abandon the right to control their exchange rates because floating rates would leave them at the mercy of market forces and 'destabilizing speculation'. As a result, it was argued that crawling pegs was the maximum concession towards floating that one might hope to negotiate. The basis for our proposal for a crawling peg system, however, was quite different.[45]

First, the international movement of capital benefits the world in so far as it tends to equalize social yields through the transfer of real resources from 'surplus' countries (whose full employment national savings exceeds profitable domestic investment at the common yield) to 'deficit' countries (whose full employment national savings falls short of profitable domestic investment). Therefore, we would want an international payments system in which a differential in social yields across countries would lead to a transfer of real resources. We argued, however, that if countries were to retain the ability to pursue domestic stabilization goals with widespread wage and price rigidities, the required transfer of real capital from surplus to deficit countries could not be achieved merely through a high mobility of private capital, but that it also required enough long-run flexibility in exchange rates to permit the current account balance to accommodate, at least gradually, the needed real flows. These considerations led us to reject fixed rates in favor of at least gradual adjustments of exchange rates to achieve the transfer.

Second, given high mobility of private capital and assuming at first that no stabilization measures are taken, we showed that cyclical disturbances in domestic demand resulting from transient changes in the propensity to invest or consume, that is, from transient changes in 'surplus', will lead to a larger change in aggregate demand of the rest of the world (ROW) under floating rates than under fixed rates, because fixed rates impose on the country in which the disturbance originates a behavior pattern which dampens its impact on the rest of the world. In other words, fixed rates tend to dampen the international propagation of cyclical disturbances.

Third, we demonstrated that under fixed rates, the disturbing country has the incentive to respond to the initial disturbance by using policies which are stabilizing both for itself and for the ROW whereas, with floating rates, the disturbing country has more to gain by adopting policies which further destabilize the ROW.

The ideal system of international payments would be one that allows the transfer of permanent changes in surplus and prevents or limits the transfer of cyclical or transient changes in surplus. This situation cannot be achieved under either fixed rates (which allow for no change in transfer) or under floating ones (which allow the transfer of both permanent and transient changes). Nor could one rely on a system that permitted selective transfer of one kind of change but not of the other because it would be hard to establish whether any given change would be transient or permanent. These conclusions need to be modified to recognize that, under floating rates, the operation of private markets could be relied upon, to some extent, to contain the transfer of resources between the domestic and the foreign sector when the disturbance, and hence the interest rate differential, were generally recognized to be but transient in nature. In this case, in fact, one could expect the spot and the forward rate to move in opposite directions, reducing the change of the spot rate and the transfer of real capital generated by a given differential between domestic and foreign rates. Clearly these same conclusions would apply to some ex-

[44] Williamson (1965).
[45] Modigliani and Askari (1973).

tent to a system of crawling pegs, provided the system allowed a band of permissible fluctuations around parity. It is, in fact, precisely for this reason an adequate band should be provided for. However, under crawling pegs, if the spot rate, nonetheless, hits the lower limit of the band, the monetary authority would be required to intervene, which would be appropriate.

These considerations suggest that crawling pegs may be preferable to either pure floating rates or permanently fixed parities. Under crawling pegs, in fact, gradual changes in potential surplus – as well as other gradual changes tending to impinge on the trade balance such as sustained differences in the rate of inflation – could be absorbed through gradual changes in parity.[46] On the other hand, limitations on the rate of crawl would prevent a country from requiring the rest of the world to absorb significant short-run changes in imports and exports forced on it by rapidly, unconstrained, changes in exchange rates. Furthermore, this limitation on the rate of crawl would encourage the originating country to take anticyclical policy measures which are stabilizing for both itself and for the rest of the world.

Although the specifics of any crawling peg system would have to incorporate both the lessons of the last twenty-five years and their political, economic, and financial developments and realities, the broad benefits over the current system should be noted. First and foremost, volatility and large swings in exchange rates would be substantially diminished, reducing possible adverse effects on trade and long-term capital flows. Second, international transmissions of domestic economic shocks would be reduced, affording some support to policy independence. Third, and as opposed to fixed rates, the gradual adjustment in exchange rates would facilitate the needed real resource transfer from surplus to deficit countries. Fourth, some exchange rate flexibility reduces the build up of speculative pressure and thus largely eliminates dramatic crises as experienced in Mexico and in East Asia; as opposed to the linear movements in exchange rates under a fixed regimes, a crawling peg system explicitly recognizes exchange risk and thus dampens speculative flows. While floating rates would also reduce the likelihood of such severe currency crises, crawling pegs have these other helpful properties mentioned above.

[46] It should be recognized that even with a system of crawling pegs, one may need some occasional, discontinuous large change in parity if a sudden 'permanent' shock of large proportion occurs. In such cases, the appropriate policy measure is to float the exchange rate for a short period until a new maintainable level has been established.

Before discussing what kind of broad system may be desirable for the world, for groups of countries and for individual countries, it may be useful to repeat our simple, yet fundamental, points. A particular exchange rate system – fixed, floating or crawling – is not a sufficient condition for achieving specific results. Economic and financial characteristics of a country – such as price and wage determination, degree of financial liberalization, macroeconomic policy credibility, size of international trade and other attributes of economic size such as GDP – are also critical elements in shaping economic options and outcomes under a particular system of exchange rates. Financial liberalization and the free flow of capital is desirable and should be supported to the extent that capital movements are motivated by differing social yields and are accompanied by real resource transfers; on the other hand, speculative capital flows should be discouraged. In this regard, crawling pegs (which essentially embody short-run fixity and long-run flexibility in exchange rates) combine the desirable attributes of fixed and floating rates.

At the same time, we should recall the lessons of the Asian (emerging market) crisis. To varying degrees, most commentators attribute the crisis to factors such as inadequate domestic financial infrastructure (especially supervision and regulation of banks), cronyism, unsound macroeconomic fundamentals, policy credibility, short-term financing of large current account deficits, harmful IMF policy recommendations and the like. Invariably, the role of the exchange rate system is neglected or at best given tertiary billing. Exchange rate systems do matter. A fixed exchange rate system to one currency (normally the dollar) is invariably a bad idea. It may make sense only if most of a country's trade is with the US *and* the country has similar macroeconomic policies (essentially similar wage policies) to the US *and* that the maintenance of such a policy commands long-term credibility in financial markets. Even then, a country is not immune to speculation if its Fx reserves are substantially smaller than its short-term external debt or its M1 or M2 money supply. These standard drawbacks of permanently fixed rates should be readily accepted. Even in 1944, a time when international capital mobility was low in comparison to 1998, the architects of the Bretton Woods System fore-

saw the need for periodic changes in exchange rates. The basis of their expectation was policy divergence.

The essence of the proposal would be a system of crawling pegs between the three major economic blocs – the US, the EU and Japan. These three major blocs have several important characteristics in common; they have a sizeable GDP; they have a significant share of world trade and capital flows; their currencies are used as reserves; and they have the most credible macroeconomic policies as perceived by financial markets. More specifically:

i) the SDR would be defined as an appropriately weighted basket of the dollar, the euro and the yen.[47]

ii) The currencies of the three major economic blocs would crawl against the SDR.[48] The three major economic blocs would make a serious attempt to coordinate macroeconomic policies (inflation and unemployment).

iii) Countries outside of the three major economic blocs could in theory choose any exchange rate system that best suite their particular economic and financial circumstances – fixed or crawling (with a band size that reflects their independence requirements) against a particular currency (such as the dollar, the euro, the yen or the SDR) or floating. But in practice, given the presumed beneficial properties of crawling pegs, we would expect that most countries would choose such an arrangement. Fixed and floating would be the exceptions and not the norm. This choice would clearly depend on the volume and the direction of trade, volume and direction of long-term capital flows, other measures of economic and financial size, macroeconomic policy credibility, the degree of financial liberalization (especially capital mobility), regional trade arrangements, domestic wage (and price) determination, and on the specifics of domestic financial and labor markets. In the case of a fixed rate or a crawling peg, a country should be realistic as to the currency (or basket of currencies) it chooses to fix to or to crawl against. Volume of trade and financial flows with the currency (or basket of currencies) should be primary determining factors.

iv) The international community would seriously explore the desirability of various measures to discourage short-run speculative capital flows.

Invariably at times of financial crises, there are pressures to suggest new international financial systems. The present crisis is not different. Presidents, finance ministers, governors of central banks and academics are floating their ideas on a daily basis. In many instances, their ideas will require a great deal of discussion and time before they can be implemented. Our simple suggestion for a crawling system between the three major currencies can be quickly put into place.

8. Conclusion

Looking back over the last twenty-five years, and keeping the Bretton Woods experience in mind, most, if not all of the lessons are well known.

Under a system of floating rates, exchange rates have not behaved in an orderly manner to reflect changing economic fundamentals. In the short run, speculation reeks havoc and does not appear to be stabilizing. Over the longer run, speculation coupled with differential speeds of adjustment in asset and goods markets result in large and inexplicable movements in exchange rates. Such volatile short- and long-term exchange rate behavior can hardly be helpful to international trade in goods or to the movements of long-term capital motivated by differing social yields across countries. Unfortunately, we do not have a good handle on the size of such potential costs. Yet we know that more stable exchange rates could but only be helpful. Speculation, almost perfect capital mobility and lack of macroeconomic policy credibility of governments have diminished one of the most important a *priori* advantages of floating over a fixed system,

[47] Our original 1971 proposal was a complete system but it was asymmetric. Although it contained more disadvantages than advantages for the US, it would be probably politically unacceptable today. At the same time, the SDR was defined to have constant purchasing power in terms of a select basket of internationally traded goods. This we believe would be still the desirable solution today. However, for the ease of negotiations one could start with a SDR that is a currency basket and in time move towards a constant purchasing power SDR.

[48] The rate of crawl and the width of the band of permissible fluctuations could vary from country to country and would depend on the various circumstances of individual countries (see Modigliani and Askari 1971).

namely, that of monetary policy independence. Independent monetary policy may have been further eroded in countries where real wages are unchangeable because of strong escalator clauses. In the past, due to these disappointments with the floating experiences, some countries have opted to fix their currencies to a strong 'anchor', at times at an enormous cost in terms of national competitiveness and output. What policies and approaches may be helpful for the future?

First, the international community should seriously consider policies to reduce disruptive speculation. While international movement of capital which is motivated by differing social yields is beneficial to the extent that real resources flow from surplus (where full employment national savings exceeds profitable domestic investment at the common yield) to deficit countries, short-term speculative flows entail significant costs and may cause serious currency crises. Although it may be difficult to eliminate speculative capital flows, the stakes are so high that it is worth serious study and effort. The Chilean experience with controls to shift inflows in favor of long-term flows, while raising other questions, deserves further study. However, broad capital controls, while difficult to enforce, would also reduce the substantial benefits of long-term capital flows.

Second, countries should be encouraged to enhance their macroeconomic credibility by affording their central banks more autonomy, improving their inflation record and by maintaining consistent policies over the long haul.

Third, although policy coordination has proved elusive in the past, it may be more palatable between the three major economic blocs. The success of simple policy coordination (inflation and unemployment) between the three largest economies is more likely than a more complicated policy coordination between a larger number of countries.

Finally, crawling combines the benefits of floating (resource transfer and some measures of monetary policy independence) and fixed rates (some measures of policy discipline and insulation from external economic shocks). Moreover, limited short-run exchange rate flexibility resulting in non-linear exchange rate movements may tend to reduce speculation over a fixed rate system while reducing short-run exchange rate volatility. While a crawling system may not be for all countries, it may be a useful system for most countries. We suggest that the currencies of the US, the European Union and Japan should

crawl against a newly constructed SDR (an appropriately weighted basket of their three currencies or preferably defined to have a constant purchasing in terms of a select basket of internationally traded goods). This is a proposal that can be readily and quickly adopted as it essentially directly involves only three entities – the US, the European single currency area and Japan. In general, countries, or country groups, should opt for a fixed, floating or crawling system depending on the characteristics of their financial markets (capital mobility), the size and direction of their trade, their economic size, the flexibility of their labor markets and wage adjustment characteristics, and on their perceived macroeconomic policy credibility by financial markets.

REFERENCES

AMANO, R., P. FENTON, D. TESSIER and S. VAN NORDEN (1998), "The credibility of monetary policy: a survey of the literature with some simple application to Canada", mimeo.

BANK FOR INTERNATIONAL SETTLEMENTS (1995), *65th Annual Report*, June 12.

BANK FOR INTERNATIONAL SETTLEMENTS (1996), *66th Annual Report*, June 10.

DORNBUSCH, R. (1986), "Special exchange rates for capital account transactions", *World Bank Economic Review*, vol. 1, no.1.

DORNBUSCH, R. and J. FRANKEL (1987), "The flexible exchange rate system: experience and alternatives", National Bureau of Economic Research, *Working Paper*, no. 2464.

DORNBUSCH, R., I. GOLDFAJN and O. RODRIGO (1995), "Currency crises and collapses", *Brookings Papers on Economic Activity*, no. 2.

DRÈZE, J. (1995), *Pour l'emploi, la croissance et l'Europe*, De Boeck Université, Amsterdam.

EDWARDS, S. (1996), "Exchange rate anchors, credibility, and inertia: a tale of two crises, Chile and Mexico", *American Economic Review*, vol. 86, no. 2.

EDWARDS, S. (1998), "Controls are not the reason for Chile's success", *The Wall Street Journal*, April 3, p. 419.

EUROPEAN MONETARY INSTITUTE (1995), *Progress towards Convergence*, Frankfurt, November.

FRANKEL, J. (1987a), "The International Monetary System: should it be reformed?", National Bureau of Economic Research, *Working Paper*, no. 2163, February.

FRANKEL, J. (1987b), "Obstacles to international macroeconomic policy coordination", International Monetary Fund, *Working Paper*, no. 87/29.

HOSOMI, T. (1985), "Toward a more stable International Monetary System", *A Second Look at Foreign Exchange Markets Interventions*, Japan Center for International Finance, Tokyo.

KRUGMAN, P. (1998), "What happened to Asia?", mimeo, January.

LIVIATAN, N. ed. (1992), "Proceedings of a conference on currency substitution and currency boards", *World Bank Discussion Papers,* no. 207, Washington.

MODIGLIANI, F. (1996), "The shameful rate of unemployment in the EMS: causes and cures", *De Economist*, vol. 144, no. 3.

MODIGLIANI, F. and H. ASKARI (1971), "The reform of the international payments system", *Essays in International Finance*, no. 89, Princeton University, Princeton.

MODIGLIANI, F. and H. ASKARI (1973),"The international transfer of capital and the propagation of domestic disturbance under alternative payment system", *Banca Nazionale del Lavoro Quarterly Review*, no. 107, December.

MODIGLIANI, F. and H. ASKARI (1997a), "The business expectations and strategy for the United States of Europe", *Strategy and Business,* issue 7, second quarter.

MODIGLIANI, F. and H. ASKARI (1997b), "Exchange rate and economic policy in three regional blocks: the EU, the GCC and the CFA", in S. Rehman ed., *Financial Crises Management in Regional Blocs,* Kluwer Academic Publishers, Dordrecht.

OUDIZ, G. and J. SACHS (1984), "Macroeconomic policy coordination among the industrialized economics", *Brookings Papers on Economic Activity*, no. 1.

ROGOFF, K. (1985), "Can international monetary policy coordination be counterproductive?", *Journal of International Economics*, vol. 18, no. 3-4.

SACHS, J. (1997), "Commentary: managing financial crises in emerging markets", *Maintaining Financial Stability in a Global Economy*, Federal Reserve Bank of Kansas City, special issue, August.

SÖDERLIND, P. and L. E.O. SVENSSON (1997), "New techniques to extract market expectations from financial instruments", National Bureau of Economic Research, *Working Paper*, no. 5877.

STIGLITZ, J. (1978), "What caused Asia's crash – bad private-sector decisions", *Wall Street Journal,* February 4.

TOBIN, J. (1978), "A proposal for international monetary reform", *Eastern Economic Journal*, vol. 3, no. 3-4.

TOBIN, J. (1997), "Why we need sand in the market's gears", *The Washington Post,* December 21.

WILLIAMSON, J. (1965), "The crawling peg", *Essays in International Finance*, no. 50, Princeton University, Princeton.

WILLIAMSON, J. (1985), "The exchange rate system", *Policy Analyses in International Economics*, no. 5, Institute for International Economics, Washington.

WILLIAMSON, J. and M. MILLER (1987), "Targets and indicators: a blueprint for the international coordination of economic policy", *Policy Analyses in International Economics*, no. 22, Institute for International Economics, Washington.