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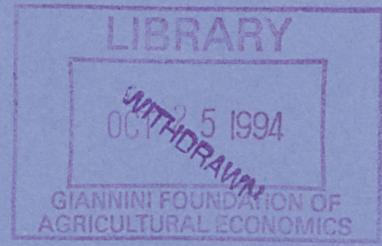
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The Bretton Woods System: Paradise Lost?

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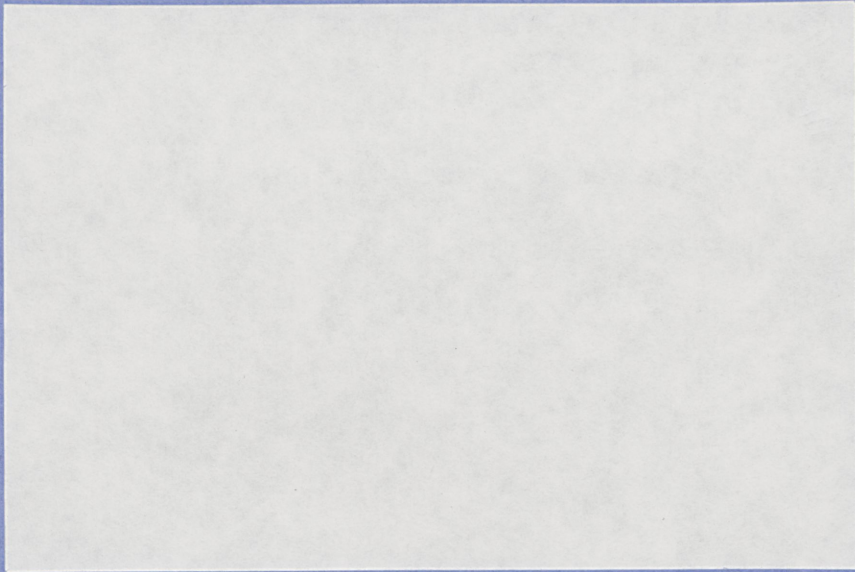
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October 1994

Key words: exchange rates, international monetary system, Bretton Woods
JEL Classification: F0, N0

Abstract

The Bretton Woods System frequently appears in the scholarly literature as a model for international monetary reform. This paper briefly considers its operation. It argues that the system's principal achievement, the maintenance of stable exchange rates, was product not of the agreement finalized at the Bretton Woods Conference alone but of two exceptional features of the postwar world. One was the limited international mobility of capital. Capital controls provided policymakers room for maneuver; they softened the tradeoff between domestic objectives and defense of the exchange-rate peg. The other was singular scope for growth resulting from postwar reconstruction and catch-up. In these circumstances, countries felt little need to engage in discretionary monetary and fiscal policies that might have undermined the currency peg.

The Bretton Woods System: Paradise Lost?¹

Barry Eichengreen
September 1994

I. Introduction

A reader turning for the first time to the literature on Bretton Woods might be forgiven for thinking that he had stumbled upon a forgotten sequel to Paradise Lost. Paradise, in the form of pegged but adjustable exchange rates, prevailed from the 1950s until 1971. Its pleasures included price stability, full employment and effortless balance of payments adjustment. Paradise was lost in 1971-73, the system having been destroyed by reckless policies, principally in the United States. The world was banished to a purgatory of fluctuating exchange rates, rapid inflation and high unemployment.

Or so the myth would have it. In fact, conditions were never so heavenly under Bretton Woods. And its principal achievement, the maintenance of stable exchange rates, was a product not of the agreement finalized at the Bretton Woods Conference alone but of two exceptional features of the postwar world.

One was the limited international mobility of capital. Governments applied capital controls during World War II and retained them subsequently. Convertibility for current account transactions was only resumed in Europe on December 31st, 1958. The restoration of convertibility for capital-account transactions had to wait until years later.

¹ Prepared for the special issue on the Bretton Woods System of the Revue d'economie financiere, forthcoming in 1995.

The effectiveness of controls was buttressed by restrictions on international banking legislated in response to the Great Depression and by the fact that international bond markets had not yet recovered from the sovereign defaults of the 1930s. In this environment, controls could work. Together with quiescent markets, they limited international financial flows and provided policymakers room for maneuver. They softened the tradeoff between domestic objectives and defense of the exchange-rate peg. Though never impermeable and progressively less effective as time passed, they reduced the cost of defending a currency peg and provided breathing space for governments to consult prior to devaluations.

The other special feature of the postwar world was singular scope for growth. The United States had lost nearly a decade of growth as a result of the Great Depression. Two decades of depression and war had left Europe far behind. Now this lost time could be made up. With its economy growing at 4 1/2 per cent per annum in the 1950s, Europe was content with undervalued exchange rates and modest real wage increases. While U.S. growth was not as rapid, it was still impressive by historical standards and worked to soften policy tradeoffs. In these circumstances, countries felt little need to engage in discretionary monetary and fiscal policies. Aside from France's problems, which were largely a consequence of overseas military commitments, pegged exchange rates posed few policy dilemmas.

By the end of the 'fifties, this spurt of "catch-up" growth was spent. Budget constraints tightened, and policymakers were torn between the maintenance of external balance and financing objectives like Europe's welfare state and America's Vietnam War. Meanwhile, the revival of international financial markets was underway. The restoration of current-

account convertibility opened a back door through which capital could flow. International bond markets reawakened, the Eurodollar market was born, and banks began syndicating international loans. America's gold reserves were no longer ample relative to its foreign liabilities. Balance of payments constraints began to bind.

Rising capital mobility and new questions about the depth of governments' commitments to their exchange rate pegs strained the Bretton Woods System. When currencies were thought vulnerable, they were attacked. No longer was there time for consultation. Officials could not afford to be thought to be contemplating a devaluation, or a crisis would ensue. The system grew rigid and brittle. Instead of a regime of pegged but adjustable exchange rates, Bretton Woods degenerated into a system of "fixed" but ultimately unsustainable rates. Its collapse in the 1970s was rendered all but inevitable.

This paper develops these themes and draws out their implications for international monetary reform at the turn of the century. The principal implication is that changes in the political and economic environment will rule out pegged but adjustable exchange rates like those established at Bretton Woods. Technological progress in financial markets, by complicating efforts to apply capital controls, coupled with the more sclerotic state of labor and commodity markets, which creates a more troubled environment for growth, has removed the exceptional features of the postwar world that allowed the Bretton Woods System's pegged but adjustable rates to work. A move back toward pegged exchange rates like that proposed by the IMF's Michel Camdessus is simply not on. This leaves two choices: continued floating and monetary unification. While Europe has

opted for the second alternative, the first will continue to govern exchange rates between the currencies of other advanced countries for the foreseeable future.

II. The Role of Capital Controls

No one -- certainly not John Maynard Keynes nor Harry Dexter White -- advocated the early restoration of capital-account convertibility at Bretton Woods. Interwar experience with "hot money," or "destabilizing speculation" as it was also known, led to a permanent disenchantment with uncontrolled capital movements. The IMF Articles of Agreement authorized the retention of controls of capital-account transactions. Article XIV also provided for a postwar transitional period, presumed to last for three to five years, when controls might extend to current-account transactions. Starting in 1950, under the aegis of the European Payments Union, the continent made slow progress toward current-account convertibility. But its restoration took longer than anticipated: Europe completed the process only on December 31st, 1958. And even after 1958, controls on capital-account transactions remained the rule rather than the exception.

Obstfeld (1993) has analyzed the impact of controls using monthly data on interest rates on German and U.K. medium-term government bonds, from 1950 and 1947 respectively, computing interest differentials relative to comparable U.S. interest rates. German and U.S. bond rates generally moved in step over the long run. But in the intermediate term, divergences could be considerable. In 1956, for example, German rates were more than double the analogous U.S. rates (at 7 versus 3 per cent). This differential reflected the Bank Deutscher Lander's efforts to restrain

inflation

The question is whether these differentials again opened up prior to the 1961 and 1969 deutschemark revaluations. Similarly, U.K. rates were some two percentage points above U.S. rates throughout the Bretton Woods period.

The question is whether these differentials reflected expectations of devaluation and revaluation or obstacles to capital flows. To focus on the latter, Obstfeld computes covered interest differentials (interest rate differentials adjusted for the forward discount).² He finds covered differentials as large as two percentage points for the U.K. and larger than one percentage point for Germany in the 1960s. These differentials, which cannot be attributed to expected exchange rate changes, confirm that capital controls mattered.

Marston (1993) compares covered interest differentials between Eurosterling (offshore) rates and British (onshore) rates. The advantage of this comparison, relative to Obstfeld's, is that it eliminates country risk (the danger that one country is more likely than the other to default on its interest-bearing obligations); the drawback is that the time series concerned are relatively short. Between April 1961, when Eurosterling interest rates were first reported by the Bank of England, and April 1971, the beginning of the end for the Bretton Woods System, the differential averaged 0.78 per cent. The Eurosterling-sterling differential remained at least that large in 1973-79, when controls were maintained but exchange rates were floated, before declining to essentially zero in 1979-87.

² Aliber (1978) and Dooley and Isard (198) undertake similar exercises, reaching generally sympathetic conclusions.

Marston concludes that controls "clearly...had a very substantial effect on interest differentials." Similarly, covered interest differentials between Eurodollars and U.S. CDs fell by two thirds between the control and post-control periods. The contrast is less pronounced when covered interest differentials are calculated for Euromark and German interest rates, presumably because Germany, unlike Britain, was seeking to control capital inflows rather than outflows, but it points in the same direction. The effectiveness of controls can be overstated, as Truman (1994) warns, but Marston's evidence confirms that they mattered.

Controls made it possible for national authorities to defend their pegged exchange rates against speculative attacks not prompted by significant divergences in economic policy. Firms and brokers still could find ways of spiriting domestic currency out of the country, through over- and under-invoicing and the operation of leads and lags, but the need to circumvent controls meant that there was expense involved. There had to be a reasonable expectation that a devaluation would follow in finite time for this to be worthwhile. Minor policy divergences that led to the modest overvaluation of a currency might not provide sufficient motivation. This in turn gave national authorities some leeway to utilize their monetary independence.

Even when serious imbalances developed, controls were useful for providing the breathing space needed to organize orderly realignments.³ It

³ This is the effect emphasized in the theoretical writings of Wyplosz (1986). Brown (1987, Chapter 4) describes the principal capital movements and speculative crises of the Bretton Woods period. One impression conveyed by his account is that the length of time between the markets growing unsettled and the forceable abandonment of exchange rate pegs was longer than in the ERM crises of 1992-93.

was possible for policymakers to consult and agree on the magnitude of the parity change without being submerged by a tidal wave of capital outflows. When devaluation was imminent, speculative pressure could be intense, but officials still had several weeks or months to ponder a course of action.

Not until the 1980s did most of the industrial countries remove their capital controls. Well before, however, the writing was on the wall. The financial system developed a variety of new channels to circumvent controls, raising the costs of implementation and enforcement. Already in the 1960s, U.S. interest-rate ceilings and controls on capital outflows stimulated the development of the Eurodollar market. Once it became apparent that U.S. banking business could move offshore, the days of interest-rate ceilings were numbered. And as Eurodollars were joined by Eurosterling and Euromarks, the process generalized. By the 1960s, the international bond market had recovered, and commercial banks, which increasingly maintained offices in several countries, discovered the business of international lending.

As capital controls grew porous, pegged-but-adjustable exchange rates grew rigid. The mere hint of a devaluation could unleash an avalanche of capital flows. There being no possibility that sterling would be revalued in 1967 or that the dollar would be revalued in 1971, currency speculators were presented with an increasingly low cost one-way bet. Policymakers could not display the slightest inclination of contemplating the possibility of a devaluation, or they would be overwhelmed by capital flows; this was true most of all of the United States, which was obligated to maintain the convertibility of the dollar into gold and whose foreign liabilities, as a result of the dollar's key currency status, greatly

exceeded her official reserves. The foreign-exchange value of the dollar could still be changed through simultaneous realignments by other countries, but this required international consensus and coordination more ambitious than was feasible to arrange. Instead of being vented by parity adjustments, therefore, competitive imbalances were allowed to mount.

It is sometimes argued that the mistake of the officials responsible for the operation of the Bretton Woods System was that they failed to realign in a more timely fashion.⁴ This criticism overlooks the fact that the growing permeability of capital controls undermined their ability to realign. If they displayed a willingness to do so once, their reputations for defending their exchange rates would be tarnished thereafter.⁵ Speculators offered a low cost one-way bet would have every incentive to bet against the currency, and the interest-rate premia that holders of domestic assets would consequently demand would increase the drain on official resources and weaken the government's ability to defend the exchange rate peg.⁶ As a result, the Bretton Woods System grew rigid. Eventually it was toppled by its own weight.

III. Post-War Reconstruction and Bretton Woods

The other condition that helped Bretton Woods to work was rapid economic growth attributable to postwar reconstruction and catch-up. The

⁴ This is, of course, also the official explanation for the 1992 crisis in the European Monetary System.

⁵ Obstfeld (1993) cites a number of contemporaries who articulated this view.

⁶ This last point is an implication of models of self-fulfilling balance-of-payments crises. See Flood and Garber (1984) and Obstfeld (1986, 1994).

(unweighted average) rate of growth of output per annum in Western European countries reached 4.7 per cent in the 1950s and 5.5 per cent in the 1960s.⁷ In Japan, growth accelerated even more rapidly relative to prewar levels. Cross-section regressions suggest that Europe enjoyed some two additional percentage points of growth per annum during the Bretton Woods years as a result of the backlog of available technology and its productivity gap vis-a-vis the United States.⁸

Rapid growth moderated adjustment difficulties and softened distributional conflicts. It was easier to get labor and capital to agree to shift resources out of declining sectors when other sectors were growing rapidly. It was easier to enforce wage moderation when trends in living standards were strongly upward. It was easier to limit rates of profit taxation when the tax base was growing.

Wage moderation was buttressed by other exogenous conditions. Labor militancy was muted by memories of high unemployment in the 1930s. Labor-market tightness was relaxed by the elastic supplies of underemployed labor that Europe enjoyed.⁹ Ample supplies of labor flooding into Germany from its East, into Holland from Indonesia, and into France from Algeria encouraged docility on the part of unions. Underemployed labor in the agricultural sector had similar effects in other countries.

Rapid postwar growth and its concomitants had several favorable implications for the operation of the Bretton Woods System. Where wage

⁷ Figures in this paragraph, as well as some of the analysis, are from Eichengreen and Kenen (1994).

⁸ See Dumke (1990) and Crafts (1992).

⁹ On the elastic-labor-supply argument, see Kaldor (1966) and Kindleberger (1967).

moderation prevailed, there was little danger that excessive inflation due to rising labor costs would create a competitiveness problem sufficient to call into question the exchange-rate peg.¹⁰ The stability of money wages enhanced the effectiveness of exchange rate changes; because money wages did not rise in step with the exchange rate, parity changes could have powerful, long-lived effects.¹¹ Wage flexibility and rapid productivity growth meant that full employment was relatively easy to maintain.

An implication was that governments came under less pressure than subsequently to actively employ monetary and fiscal instruments. In Germany, where ordo-liberalism was the order of the day, monetary policy was used to restrain inflation but rarely directed toward output and employment targets. Bordo (1993) and Eichenbaum and Evans (1993) report various measures of the magnitude of monetary policy shocks for a cross section of countries during the Bretton Woods years, concluding that these were smaller than before and after. In Eichengreen (1993) I use a different methodology to derive estimates of aggregate demand disturbances, to which monetary policy is one important contributor, finding that these were smaller between 1959-70 than in surrounding periods. The fact that monetary policymakers were not torn between the imperatives of internal and external balance to the extent they would become subsequently meant that monetary instruments could be directed primarily toward balance-of-payments targets.

¹⁰ Alogoskoufis and Smith (1991) show that policies affecting prices produced smaller increases in wages and larger increases in output and employment during the Bretton Woods period than subsequently.

¹¹ Obstfeld (1993) emphasizes the persistence of the effects of exchange rate changes during the Bretton Woods period.

Such arguments must come to grips with the objection that these circumstances were a consequence, not a cause, of Bretton Woods' pegged but adjustable rates. The rapid growth of the period could have been assisted by the nominal anchor provided by Bretton Woods, which minimized price uncertainty and encouraged investment. But the fact that the acceleration in growth varied across countries and that much of it was associated with the shortfall in output relative to postwar levels (the reconstruction effect) and gaps vis-a-vis the United States (the catch-up effect) suggests that it also had independent roots. It is more plausible to argue that the lesser tendency for price-level increases to be passed through into wage inflation was due not merely to memories of unemployment in the 1930s and elastic supplies of underemployed labor but to the Bretton Woods System itself. But the extent of wage moderation also varied across countries in ways that were associated with distinctive domestic labor market conditions rather than simply reflecting the operation of an international monetary regime common to all of them.¹²

This process played itself out in the 1960s. As growth decelerated, distributional conflicts intensified. Elastic supplies of labor from Eastern Europe were no longer available following the construction of the Berlin Wall, and a decade of growth had completed the process of drawing unemployed labor out of the agricultural sector. Meanwhile, unemployment rates continued to fall. The hot summer of 1968, punctuated by a Europe-wide strike wave, signalled that a decline in labor market flexibility was underway. Bayoumi and Eichengreen (1994a) estimate the elasticity of

¹² Evidence to this effect is provided by Eichengreen and Vazquez (1994).

aggregate supply curves (which are steeper the more flexible are wages and prices) for the Bretton Woods years and the post-Bretton Woods float; they find a noticeable decline in flexibility around the time of the breakdown of Bretton Woods. This meant that shocks to the economy increasingly displaced output and employment.¹³ Accordingly, political pressures intensified for policymakers to direct the instruments at their command toward achieving internal rather than external balance. This new environment was less conducive to the maintenance of a system of pegged exchange rates.

IV. Implications for International Monetary Reform¹⁴

Both of the trends described above aggravate the difficulties of operating systems of pegged but adjustable exchange rates. Recent events in Europe underscore the problem. The inertial character European labor markets compounds the difficulty of adjusting to shocks in the absence of the exchange rate instrument. The limited independence of central banks heightens their susceptibility to political pressures and casts doubt over their commitment to robust monetary rules.¹⁵ The growth of international financial transactions, reputed to exceed \$1 trillion a day, limits the

¹³ Bayoumi and Eichengreen (1994b) document that a principal difference between the Bretton Woods period and that of the post-Bretton Woods float was the slower speed of adjustment to shocks as time passed and hence the persistence of fluctuations in output and employment.

¹⁴ This section draws on Eichengreen (1994b).

¹⁵ Measures to buttress central bank independence, undertaken in conjunction with Stage II of the monetary unification process set out in the Maastricht Treaty, have helped to ameliorate this problem in Europe, but the independence of major European central banks, in the U.K. and France for example, remains incomplete.

effectiveness of capital controls.

One response to this problem is to live with floating exchange rates. In this conclusion I ask whether there exist alternatives at the global level.

A. A Single World Currency

A first option is to make exchange rates truly inflexible and unadjustable -- irrevocably fixed, as is true within the United States, Canada, and other federations -- by creating a single world currency.¹⁶ By eliminating the exchange rate, monetary unification eliminates exchange rate fluctuations. This is the path that the European Union has opted to follow. But a clear lesson of the Maastricht process is that political solidarity and economic convergence are prerequisites for monetary unification. Europe has been following this path for nearly half a century, as anyone familiar with the history of the EEC can attest. A web of overlapping bargains makes it feasible to extend side payments to countries that are reluctant to participate in the European Monetary Union. Thus, Germany, which hesitates to give up its beloved deutsche mark for the uncertainties of an "esperanto money," might allow itself to be dragged into monetary union in return for an expanded foreign policy role in the context of a EU foreign policy. Any reservations France might evince are offset by the political advantages of the Common Agricultural Policy, whose viability is threatened by exchange rate fluctuations.¹⁷ Small countries

¹⁶ For arguments to this effect, see Cooper (1990) and Bergsten (1993).

¹⁷ Giavazzi and Giovannini (1989) have emphasized the disruptive impact of currency fluctuations on the CAP and the impetus this lent to efforts to limit intra-European exchange rate movements.

like Belgium and the Netherlands derive disproportionate benefit from the access to the larger French and German markets which they enjoy courtesy of the Single Market Program. And Spanish and Portuguese qualms are assuaged by the benefits they reap from the EU's Structural Funds. The existence of a European Parliament with expanding powers provides reassurance that there exists an entity that might eventually possess the political authority to hold the European Central Bank accountable.

It is unrealistic to hope that the major industrial countries can achieve comparable political and social solidarity in our lifetimes. "Federalism" may be a dirty word in large parts of Europe, but the progress the EU has made in establishing a web of interlocking agreements underscores the very considerable strides that other parts of the world will have to take to emulate its example. It is difficult to imagine that the G-7, much less the entire world, will succeed in doing so in our lifetimes.

B. Currency Boards

A currency board is designed to minimize uncertainty about the authorities' commitment to defending their exchange rate peg. The currency board statute prohibits the authorities from issuing money except when they acquire foreign exchange reserves adequate to convert it into foreign exchange at a fixed rate. For every dollar's worth of domestic currency they issue, for example, they must possess a dollar's worth of reserves. Credibility will be buttressed, giving speculators no incentive to test the resolve of the monetary authorities.

The question is whether credibility will be complete. The best way of answering it is to consider the operation of a specific currency board

arrangement. A good example is that of Estonia. The Estonian currency board statute separates the Bank of Estonia into Issue and Banking Departments and requires the former to peg the exchange rate against the deutsche mark and to issue currency only upon acquiring deutsche mark reserves.¹⁸ But although the Bank of Estonia is independent of the government, nothing prevents the parliament from changing the relevant law. Though the central bank currently has no discretion over the level of the exchange-rate peg, there remains the possibility that the currency board law will one day be changed. It could be revoked or modified by Parliament in response to changing economic or political conditions. Lainela and Sutela (1993) argue that Estonian officials in fact understand their currency board to be a transitional arrangement to be abandoned in the not-too-distant future. For speculators, solving backward, this raises questions about the credibility of the peg.

The implication is that a currency board statute provides less than complete insulation against speculative attacks. Requiring an act of parliament before the exchange rate peg can be abandoned would presumably compel the Bank of Estonia, in the event of an attack, to maintain the interest rate defense for longer, irrespective of the domestic consequences of high interest rates, than if it was authorized to unilaterally alter the peg. But the political fallout from high interest rates would be deflected

¹⁸ Under the law passed by the Estonian Parliament in May 1992, the currency (the kroon) must be fully backed by gold and foreign exchange. The Bank of Estonia can alter the quantity of notes and coin in circulation only by acquiring additional gold and foreign reserves. The Bank stands ready to convert kroons into deutsche marks for most current account transactions. The exchange rate is pegged to the deutsche mark at the rate of 1 DM = 8 EEK, with allowable fluctuations of plus or minus three per cent. See Hanke, Jonung and Schuler (1993).

onto the parliament. Though significant political costs might be incurred when revising the statute prohibiting changes in the exchange rate, nothing else would insulate the parliament from pressures to do so. The knowledge that there may come a point where it has the incentive to change the currency board statute could provide speculators the incentive to mount an attack.

C. Target Zones

In Williamson's original proposal for a target zone system for the industrial countries, participants preannounce bands for their real effective exchange rates, specifying a central rate surrounded by a 10 per cent margin on either side.¹⁹ Given relative national inflation rates, this implies at any point in time a central parity for the nominal exchange rate and a corresponding band. Governments would manage their nominal exchange rates using foreign exchange market intervention and monetary policy so as to keep them in the band. Periodic realignments, to be undertaken before the edges of the band are reached, would avert the danger of speculative attacks. In this respect, the arrangement would resemble a system of crawling pegs (surrounded by bands), in which the rate of crawl is governed by relative national inflation rates. The system would feature "soft buffers" allowing the rate to move outside the band under exceptional circumstances.

It is worth considering the contrasts between this proposal and the European Monetary System, since the latter arrangement proved so problematic in the early 1990s. Like the Williamson proposal, the EMS

¹⁹ Williamson (1985). The proposal is generalized in Williamson and Miller (1987). Later variants propose setting the central rate bilaterally against a reference currency such as the U.S. dollar.

specifies central rates and bands for each participating currency vis-a-vis baskets of other European currencies. It allows intervention by governments and central banks to keep currencies within their bands and mandates intervention when the edge of the band was reached. It allows for periodic realignments of the central rate. But the Williamson proposal differs from the EMS in the width of its bands (wider than the 2 1/4 per cent bands of the pre-1993 EMS, narrower than the 15 per cent bands of the subsequent system). It differs in requiring the bands to be shifted before their edges are reached if the weakness of an exchange rate reflects an underlying competitiveness problem. It differs in allowing commitments to intervene to be suspended when that weakness reflects speculation not prompted by underlying competitive difficulties.

These features are attractive in many ways. The provision requiring the bands to be shifted before their edges are reached would prevent a build-up of competitiveness problems when the bottom of the band was approached from offering speculators a one-way bet and prompting them to attack. The soft-buffer provision allowing the band to be disregarded in the event of an attack not grounded in fundamentals would allow the authorities to let the rate depreciate rather than raising domestic interest rates, ensuring the survival of the system. Once it became clear to speculators that the authorities were not inclined to alter the policies governing the evolution of fundamentals in response to the attack, the exchange rate should recover and move back into the band.

The question is whether such a system would differ significantly from floating. The advantage of target zones is the "bias in the band," the fact that a credible commitment to defense of a target zone reduces the

amount of exchange rate variability associated with given fundamentals, creating a "target zone honeymoon." Less monetary policy intervention will therefore be needed to stabilize the rate. Hence, the tradeoff between exchange rate stability and domestic monetary policy autonomy is relaxed.

Will the Williamson proposal create a target zone honeymoon? If bands are shifted as soon as a differential develops between domestic and foreign interest rates, there is no reason for the markets to anticipate that the band will be defended, and there will be no bias in the band. Indeed, this is precisely the circumstance in which the target zone honeymoon may give way to Bertola and Caballero's target zone divorce: an acceleration in inflation which increases expectations of realignment can increase the exchange rate volatility associated with given fundamentals within the band.²⁰ A more complicated set of monetary-policy intervention rules might give rise to more complex dynamics, but the resulting exchange rate behavior would not be obviously superior to that which would result from the kind of managed floating that would exist in the absence of target zones.

If, on the other hand, policymakers resist pressures to shift the band, allowing its boundaries to be reached and then intervening to prevent the rate from moving further, then they expose themselves to the kind of crises that upset the narrow-band EMS in 1993. In order to produce the bias in the band, they will have to raise interest rates to defend the

²⁰ Bertola and Caballero (1991). Here "an acceleration in inflation" is used as shorthand for any development that would undermine the international competitiveness of a country. Soft buffers, which allow the edges of the band to be breached even in the absence of an acceleration in inflation, may provide motivation for speculators to mount an attack even when there is no inflationary event to prompt them.

band's edges. In an environment of virtually unlimited market liquidity and no capital controls, the requisite interest rate increases, as in Europe in the summer of 1993, may prove infeasible. Defending the band may only produce crises and no target zone honeymoon.

D. A Tobin Tax

A final option is to tax foreign currency transactions as a way of mimicking some of the effects of capital controls.²¹ This would enhance policymakers' ability to defend themselves against speculative attacks and help to reconcile the desire for exchange rate stability with national policy autonomy. Speculators would be less likely to launch attacks against pegged currencies if they had to pay a tax to get in and out; while this would not permit seriously overvalued exchange rates to be defended indefinitely, it would decrease the likelihood of attacks not motivated by serious policy imbalances. Countries wishing a modicum of policy autonomy could exercise it without immediately exposing themselves to the danger of violent exchange rate fluctuations.

To be effective this policy would have to be implemented globally. The tax would have to apply to all jurisdictions, and the rate would have to be equalized across markets. Were it imposed unilaterally by one country, that country's foreign exchange market would simply move offshore. If the tax was only applied by France, for example, French banks could ship francs to their foreign branches, where they would be sold for foreign currency free of tax.

Thus, the policy would have to be universal. Its implementation and

²¹ The original proposal is Tobin (1978). It is updated and discussed in Dornbusch (1990) and Eichengreen, Tobin and Wyplosz (1994).

coordination would have to be the responsibility of a multilateral agency like the Bank for International Settlements or the International Monetary Fund, which would have to possess enforcement capabilities. The IMF or BIS might be authorized to set the size of the tax within limits. That organization would have to possess sanctions to be levied on countries that fail to comply with the the measure. This is not something that will occur overnight. An international consensus supporting an amendment to the IMF Articles of Agreement would be needed, for example, to empower that institution to oversee the global adoption of the tax. There is little sign that this is a realistic possibility in the short run.

V. Conclusion

None of the options enumerated above -- monetary unification, currency boards, target zones, or a Tobin tax -- is likely to provide a viable solution to the problem of international monetary reform in the short run. But just as the difficulty of advancing multilateral trade liberalization through the GATT has encouraged regional trade liberalization, the difficulty of reforming the international monetary system globally is likely to encourage regional initiatives. These tendencies have long been evident in Europe, where nations trade extensively with one another. Ever since the collapse of the Bretton Woods System, the members of what is now the European Union have pursued a series of initiatives to stabilize intra-European exchange rates. Intra-European exchange rates can be stabilized once and for all by abolishing them; there is no insurmountable obstacle to completing this process on the schedule set out in the Maastricht Treaty, although there are reasons to question

whether the three-step blueprint set out there is optimally designed.²²

Other countries will have no choice but to resign themselves to floating exchange rates. With the passage of time, an international consensus might be built to allow a foreign exchange transactions tax to be implemented globally. The political and social solidarity developed in Europe over the course of nearly 50 years might be replicated in other parts of the world, allowing more monetary unions to be established. But cultivating it will take time. For the world as a whole, there is no practical short-run alternative to living with floating rates.

²² A critique of the Maastricht transition strategy, with various proposals for revision, can be found in the report and working papers of Association for the Monetary Union of Europe's report for the European Parliament (Collignon et al. 1993).

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