Globalisation, Capital Flows and International Regulation

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Part One of this paper surveys the reasons for the failures of past policies to reduce international financial instability. Part Two explores the various possibilities for resolving the two broad questions of reducing the volatility recently observed in international capital markets and the instability caused by international capital flows and the regulations which might be improved or changed in order to provide for more efficient policy coordination on the international level.

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A. Capital Flows and Financial Market Stability in the Post-war Period until 1990

1. Introduction

The influence of capital flows on the stability of financial markets in the post-war period can be divided into a series of periods. In each of these periods policy proposals to reduce instability involved recommendations to increase the efficiency of the market mechanism in responding to the underlying, or structural, conditions of the economy. They were coupled with recommendations to introduce economic policies to establish "sound "economic fundamentals. In Wicksellian fashion, the idea was to increase financial market efficiency so as to allow nominal variables to reflect more accurately the underlying real conditions of the economy. It was implicitly assumed that the real economy would naturally establish equilibrium.

However, in each of these periods theories were being developed, and being applied by those who were responsible for the flows of financial resources, which considered sound economic fundamentals as irrelevant. Against this background it is perhaps not surprising that none of the policy proposals has succeeded in directing capital flows to produce stability. Instead, financial instability, has continued to increase. A rough measure of instability in foreign exchange markets is given by the volatility of exchange rates presented in the accompanying table.

Period	Exchange rates	Bond yields	Share prices
	Volatility (STD	of monthly	% change)
1960-69	0.4	0.2	5.3
1970-79	1.3	0.3	4.4
1980-85	1.7	0.5	4.1
1986-89	1.7	0.4	5.0
1990-94	1.6	0.3	4.0

But, it is important to distinguish the relation between the volatility of asset prices and returns and the instability of financial markets. The kind of instability that is the object of this paper is produced when "businesses, households, and financial institutions try to compensate for the shortfall in their cash flows by selling assets, i.e. as they try to make position by selling out position, a serious decline in the market price of both financial and capital assets can result" (Minsky, 1995, p. 199). It has also been described by Kaufman as "an abrupt discontinuity in the flow of credit that may set severe contractionary forces in motion. ... the history of business and financial cycles has been punctuated by sharp discontinuities in the channels of credit creation" (Kaufman, 1994, p. 10). Such instability may or may not show up in measures of volatility of asset prices or foreign exchange rates (cf. Terzi, 1992). The potential for instability would be increased by sharp changes in the levels of volatility, rather than by high absolute level of volatility or in terms of what has been called "extraordinary" or "jump" volatility.[1]

[1] The table uses a commonly accepted measure of volatility, the standard deviation of monthly changes in prices. It would be preferable to measure rates of return. "Extraordinary" or "Jump" volatility measures the frequency of extreme returns in terms of the percentage of occurrences above some benchmark level, or by the frequency of potential outliers. It involves separating "normal" volatility as measured, for example, by the interquartile range, from "occasional and sudden extreme changes in returns". The jump volatility of stock market returns fell from 1960 to 1976 and then increased from near zero to nearly 8% in the second half of the 1980s, (Becketti and Sellon, 1989, chart 3, p. 22). Becketti and Sellon also note that interest rate volatility has increased steadily in the post-war period (ibid, chart 5, p. 24). The idea is similar to a framework suggested by Gray (1990), building on Leijonhufvud, which has a normal domain bounded by ridges of stability efficiency. Normal volatility corresponds to the size of the domain; stability may exist with a wide or narrow domain. What is important is the frequency of the movements outside that range, which may also represents shifts in the normal range.

This section will examine each of these three periods and attempt to identify the contradictions between the theories which have been used to formulate macro policy and those which have been used to guide micro behaviour in financial markets. It will then turn to the question of whether instability would indeed be reduced if all countries did introduce economic policies based on establishing economic fundamentals.

2. *Post-War instability before current account convertibility*

In the period before the declaration of current account convertibility at the end of the 1950s by most of the European members of the Bretton Woods Agreements engaged in war reconstruction. Capital flows were minimal, even where they were not subject to controls. If interest and profits could not be converted into the investor's home currency there was little interest in investing in foreign currency assets. This period is really an interregnum, for most of the European countries were subject to exemptions from the Fund Articles and benefited from sharp undervaluations of their currencies; the system was operated under a series of ad hoc arrangements under the Marshall Fund such as the OEEC, the European Payments Union, etc.

3. *The 1960s: The Gnome Syndrome*

The first period thus starts with the generalised introduction of current (and in some cases capital) account convertibility, the creation of the European Common Market, and the increasing disequilibrium in exchange rates which had been built up over the reconstruction period brought increased flows of both direct and portfolio foreign investments. Financial instability was primarily confined to brief periods of intense speculation in foreign exchange markets as central banks attempted to keep currencies within the fluctuations limits around Bretton Woods parities. This was the period of international speculative "hot money" flows, orchestrated by the "Gnomes of Zurich". Speculative flows moved both to devalue (e.g. Sterling and the Franc) and to revalue currencies (DM).

Whether or not they were successful in forcing a change in the exchange rate, these flows usually succeeded in imposing shifts in monetary and fiscal policy, often accompanied by an IMF letter of intent. The policies of adjustment to "fundamental disequilibrium" were asymmetrical, only the country whose currency was under attack had to adjust policy. Usually the fundamental disequilibrium was represented by a current account deficit and a reduction in output and growth were imposed to reverse the situation.

There were two possible explanations for these speculative episodes. One was to maintain that the fundamental disequilibrium was caused by inappropriate economic policies, so that the policies should have been changed and a more appropriate exchange rate should have been introduced anyway. The market was just imposing the logical solution on reluctant politicians.

The alternative explanation was based on the incompatibility between fixed prices and the competitive market adjustment mechanism. Exchange rates, like the price of pigs, should be established in a free market if fundamental disequilibria were to be avoided. As long as rates were fixed they would be subject to speculation to force them to their equilibrium level if it happened to diverge from the parity rate. Even more importantly from this point of view, maintaining a fixed exchange rate implied foregoing the use of monetary policy to insure price stability. Since the underlying equilibrium rates were certain to vary, fixing exchange rates would almost insure disequilibrium. If policy succeeded in maintaining fixed rates, it was only because the natural equilibrium of the economy or the competitive mechanism had been distorted by government intervention. Fixed rates thus implied a choice between persistent speculative pressures as the real economy evolves, or policies to distort the natural evolution of the economy in order to achieve fixed rates.

The obvious solution was to abandon fixed parities and introduce floating exchange rates. This would have the added benefit of making possible the use of monetary policy to stabilise the price level. If all countries adopted such policies to insure constant price levels, then exchange rates would also be constant. Just as in the inter-war period of floating, central banks were advised to control the rate of growth of their domestic money supplies in order to bring about domestic price stability . It would be the role of international goods arbitragers to react to any divergence from purchasing power parity (PPP) and produce natural market forces which would restore PPP rates. In such a world, Milton Friedman (1953) assured us, even the Gnomes of Zurich would be defeated. They would make consistent losses and eventually be eliminated from the market since anyone who sold foreign exchange below the fundamental equilibrium represented by PPP would have to cover his position at a higher price since arbitragers would be buying the undervalued currency to convert it into goods to be sold abroad, and anyone who bought at a higher price would have to eventually sell out at a lower price as arbitragers sold the overvalued currency. Thus it would be the market mechanism, following profit maximising principles, which would both establish stable exchange rates and defeat the Gnomes by driving them bankrupt (or "turning" them

to become stabilising speculators).[2]

4. *The 1970s: Flotsam and Jetsam on a Whirlpool*

Whether it was the logical force of the argument, or the pressure of events, floating exchange rates were eventually introduced in the 1970s which represents the second period. They worked out rather differently, for even those countries which managed to produce internal price stability were not shielded from the impact of those who did not. Rather than being eliminated, speculators flourished. Rather than goods arbitrage driving rates to PPP, capital flows appeared to reinforce divergence from PPP. Irrespective of whether control of the money supply could produce price stability, it soon became apparent that the logical argument behind the recommendation that floating exchange rates would produce exchange market stability only if goods price arbitrage dominated interest rate or relative total return arbitrage. It was also necessary for all countries to be equally successful in attaining price stability.

If one country was more successful in stabilising inflation than others, this was usually because its monetary and fiscal policies were relatively tighter, and thus interest rates were relatively higher. The country would also tend to have a current account surplus. Its currency would then be in excess demand both as a portfolio investment and as a vehicle for goods arbitrage. The result was an appreciation against other currencies, which provided the additional attraction of capital gain potential. In such conditions speculative positions in the currency became extremely attractive for even if appreciation did not continue, the speculator had a negative cost of carry. Strong currencies that were pushed above their purchasing power parities were thus reinforced by expectations of further appreciation. Far from being stabilising, this reinforced trend increases or decreases in exchange rates. Thus, the introduction of floating exchange rates in the 1970s aggravated financial instability and destabilising capital flows increased rather than diminished. The PPP theory fell into disrepute, as currencies fluctuated widely and for sustained periods around their theoretical equilibrium values represented by PPP.

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[2] The "stabilising speculation" argument can be found in Marshall (which is presumably where Friedman picked it up). Marshall's argument requires speculators to have perfect knowledge of the equilibrium price. It is also found in Walras, who resolves the problem by assuming a central auction market in which individual demands and offers are made public during the formation of the equilibrium price. (Kregel, 1992, 1995.) Apparently the argument can be found as early as J.S. Mill. See Grubel (1990), who quotes Sohmen (1969).

5. *The 1980s: The Virginia Reel of the G-3, 5, 7, 6*

If fixed exchange rates were not the cause of the underlying disequilibrium and instability that left the other alternative explanation for fundamental disequilibrium: inappropriate government policies. The 1980s thus initiates the third period, in which the source of foreign exchange market instability was identified as government policies. It was argued that one of the reasons why governments could consistently employ such "inappropriate" policies was the imposition of controls and regulations on the activities of financial institutions. By removing these regulations and creating free financial markets, governments would be forced to introduce fundamentally sound policies, for if they did not financial institutions would take advantage of the freedom from regulation and refuse to finance them. Thus, the goods price arbitragers who would impose PPP were replaced by money managers free to move funds to any international markets who would discipline governments into introducing sound economic policies. These sound economic fundamentals, joined to the policies of the central banks to produce price stability, would then produce stable exchange rates and financial market stability.

The money managers operating in increasingly free capital markets, however, proved to be very inefficient task masters, and governments were permitted to continue their unsound financial policies leaving the central banks not only to fight inflation, but to compensate for the profligate fiscal policies of the governments. The monetary restraints that was introduced to reduce the borrowing of what Dennis Robertson once called the "unchokeoffable" borrower, meant that the least sound policies were usually accompanied by the highest interest rate differentials, and attracted the largest capital inflows. In particular, freeing capital flows provided the possibility for foreign investors, perhaps not well informed about domestic conditions, to finance the unsound policies of foreign governments. Again, the prospect of appreciation reinforced the flows of portfolio capital and foreign exchange markets tended to reinforce divergence from sound policies.

An example to of this tendency for increased deregulation of financial markets to reinforce inappropriate policies is the pressure put on Japan in 1983-4 to remove restrictions on their financial markets in the expectation that increased flows to the Yen would take some of the pressure off the dollar. Instead, Japanese investors took advantage of their new freedom to invest in high interest rate dollar assets. A similar response occurred when Italy removed most exchange market controls in 1989. Instead of the feared rush of capital exports, foreign funds flowed to the least sound policy country to take advantage of its higher interest rates. The reduction of financial

market regulations and increased freedom of capital flows thus added to exchange market instability, financial market speculative "bubbles".

The way sound policies were to be achieved thus changed during the 1980s. In the first half of the decade the US argued that it was the responsibility of each individual country to follow the most appropriate domestic policies aimed at creating sound economic fundamentals. However, after rebounding from post-war lows at the end of the 1970s, the US dollar appreciated throughout the first half of the 1980s. The Japanese yen and German Mark bore much of the brunt of dollar appreciation. Part of this movement was due to the impact of short-term speculative movements. But, it also seemed clear that part of the problem was the impact on flows of the fact the what the US on the one hand, and Germany and Japan on the other considered as basically sound policies were in fundamental conflict.

As a result, the last half of the 1980s produced a sharp reversal of approach and ushered in a period of active international policy coordination. However, as governments attempted to counter the cumulative swings in exchange rates and external account balance by means of changing internal policies this created clear conflicts between appropriate internal policies and the policies required to produce external stability. Many countries felt they were being asked to make a choice between appropriate domestic and external policies. Not surprisingly, they chose the former.

The accord reached at Plaza in 1985 was that policy actions should be coordinated in order to produce a reversal of what appeared to be a one-way dollar appreciation. From the US point of view this involved more rapid expansion in Japan and Germany. However, these governments had just managed to bring their budget deficits and inflation under control and were hesitant to engage in active fiscal expansion as long as the US continued to pursue policies leading to excessive government budget deficits, which they saw as the source of the problem. Thus, although decisions on how coordination should operate were subsequently taken at the Tokyo Summit in May 1986, and an institutional framework set out at the Louvre in February 1987, with a political endorsement at Venice in May 1987, there were continuous disputes over the mechanical application of the measures when they conflicted with internal policy needs and fundamental failure to agree on the causes of the instability.

Japan and Germany, representing countries in balance of payments surplus continued to view the problem as adapting US policy to their own more restrictive fiscal stances, while the US,

in increasing deficit, viewed the problem as increasing the surplus countries growth rates relative to those in the US. Toyoo Gyohten has noted that four conditions are required for successful international policy coordination: 1) a close, interdependent relationship amongst participating countries, 2) shared belief that coordination of specific macroeconomic policies will produce commonly agreed results, 3) a process for coordination which is mutually agreed and maintained, and 4) recognition that coordination produces better outcomes than doing nothing. He notes that in this period, only the first condition was satisfied.

The difficulties in coordinating fiscal policy have already been noted. On the monetary side, it was necessary to adjust policy so as to reduce the interest rate differential in favour of the US. Initially, this meant lower rates in the US and higher rates in Japan and Germany in order to make the dollar a less attractive investment. However, this had the effect of reinforcing the already existing growth differentials in favour of the US. Despite the failure to introduce coordination, the Plaza announcement produced a much more rapid than expected reversal of the dollar and appreciation of the Japanese Yen. The goals of policy coordination thus changed rapidly to stemming a free fall of the dollar to what was called the "hard landing" scenario. This meant the reversal of the monetary coordination to restore US differentials.

Since the US was unwilling to raise rates this meant that Japan had to be convinced to reduce rates along with introducing an expansionary fiscal package. The Bank of Japan reduced the discount rate to 3% in October 1986 and then in February 1987 at the Louvre brought it down to 2.5%. The Japanese growth rate rose from 2.6% in 1986 to 4.9% in 1987. Domestic demand contributed 6% to the rise (the foreign account contribution was -1%), so that Japan was shifting from an export to a consumer led expansion.. This set into motion the expansion of liquidity in Japan which soon took the form of a cumulative reinforcing cycle of increasing real estate and equity prices, which also served to attract foreign capital flows to Japanese markets. At the same time this set in motion a reversal of the flow of Japanese capital exports which had provided funding for the US budget deficit. Interest rates rose sharply in the Spring of 1987 as the US bond market collapsed, signaling the collapse of the US equity market in October. The attempt to eliminate instability in foreign exchange markets through policy coordination thus not only failed to stabilise the dollar-Yen exchange rate, it also fed through directly to create instability in domestic Japanese and US equity markets. After 1987 the effects of the Japanese bubble dominated both domestic and international financial markets. At the end of the decade the Bank of Japan finally intervened raise rates and prick the bubble, producing a collapse of the equity and property

markets which plunged Japan into a recession from which is has yet to emerge. The unsatisfactory results of the experiment in international policy coordination soon led to a return to the previous policy of recommending that all countries simply follow fundamentally sound policies. This had the supposed advantage of producing the appropriate results in each country without the necessity of consultation and cooperation.

At this time there were a number of academic studies (e.g. Rogoff, 1985, Frankel and Rockett, 1988) which indicated that there was no clear assurance that policy coordination would in fact produce more stable conditions. There are a number of reasons why this might be the case, ranging from the theoretical observation concerning the stabilising impact of asynchronous cyclical behaviour, to the practical difficulties involved in the availability of the appropriate statistical measures of economic performance. Given the degree of revision of most national income data, it would be hazardous to base major policy changes on data which is subject to substantial revision, while the definitive data usually arrives too late to allow policies to be adjusted in time to achieve full coordination.

It is paradoxical that during the 1980s, when countries were being advised that floating exchange rates were not sufficient to stabilise exchange rates, and that it was also necessary to practice sound fundamental policies, foreign exchange rate forecasters and economic theorists reached the conclusion that exchange rate movements could not be explained on the basis of economic fundamentals, except in the very long run and thus without import for policy purposes. In the words of Dornbusch and Frankel (1988), "exchange rates are moved by factors other than the obvious, observable, macroeconomic fundamentals." ... "The modern theory of rational speculative bubbles has all but demolished Friedman's claim that investors who bet on destabilizing expectations will lose money. In a rational speculative bubble, investors lose money if they don't go along with the trend" (Ibid, p. 65).[3] A recent survey of exchange rate determination by Taylor concludes that "further attempts to provide explanations of short-term exchange rate movements based *solely* on macroeconomic fundamentals may not prove successful". This is reinforced in a footnote which adds "Not only has the search for economic fundamentals been extensive, but the results .. suggest that the usual set of macroeconomic fundamentals is unlikely to be capable of explaining exchange rate movements on its own" (1995b, pp. 41-2).

[3] Not that the experience of floating rates was necessary to challenge Friedman's speculation hypothesis. See Baumol (1957), Stein (1961), Telser (1959), and Williamson (1973).

Studies such as those by Schulmeister (1983, 1987, 1988) suggested that under flexible exchange rates, bank foreign exchange departments made consistent profits by trading according to trend following technical trading rules.[4] Schulmeister notes that "due to their technical character speculation deliberately ignores market fundamentals. Whether or not an equilibrium exchange rate exists is completely irrelevant ... Such speculators don't think in terms of an equilibrium exchange rate (level) determined by market fundamentals but in terms of disequilibrium exchange rate movements ... which they try to exploit profitably" (1990, p. 372). This type of speculation thus cannot be stabilising in Friedman's sense.[5] If exchange rates do not reflect economic fundamentals, then it is difficult to argue that introducing policies to produce sound economic fundamentals will cause exchange rates to converge to them.[6]

6. <u>*The 1990s*</u>

(a) Destabilisation of the European Exchange Rate Mechanism

The 1990s opened with neither floating exchange rates nor completely free and unregulated capital markets having produced the kind of stability witnessed in the early pre-war period. However, policy recommendations continued in the direction of suggesting that sound economic fundamentals were an appropriate means for making free global capital flows compatible with

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[4] This not only suggested that traders were relatively uninterested in fundamentals, but also challenged the "efficient market hypothesis". Schulmeister proposed that the source of the banks' persistent returns were importers and exporters. This not only suggested that the activity of speculation was destabilising, it represented a real cost to the productive sector of the economy which could be measured by the banks proprietary foreign exchange trading profits. Grubel (1990) argued instead that the profitable bank speculators were just offsetting the negative impact of the "losing" bank speculators, so that bank speculation was still stabilising and that their profits were the cost that the real sector paid for the stability of exchange rates.

[5] It is important to recall that Keynes' interest rate parity theorem, which is the basis of arbitrage trading in foreign exchange markets and the determination of Euromarket forward rates, does not determine the level of spot rates, only temporal relative exchange rates. Arbitragers in these markets are also indifferent to the "equilibrium" level of rates.

[6] Goldberg and Frydman (1996) argue that traders use "theory consistent expectations" which provide qualitative "directional" forecasts of future movements based on a group of "leading theories" based on economic fundamentals. However, if agents have imperfect knowledge of the structural relation between fundamentals and the particular theories, it is possible for economic conditions to continue to confirm expectations even though the theory being applied is incorrect. If agents do not know the theory appropriate to interpret the economic fundamentals they may use the wrong model (cf. the reflexive approach of Soros presented above), until a sufficient amount of information or an external shock causes a reassessment and a shift which leads to a change in the model.

foreign exchange market and capital market stability.

The European Union introduced the first stage of its movement to a single currency by removing all impediments to capital flows. This was to be made compatible with the introduction of rigidly fixed exchange rates in place of Exchange Rate Mechanism fluctuation bands by the introduction in all countries of the policies required to meet the convergence criteria embodied in the Maastricht Treaty. The introduction of policies to ensure convergence toward sound economic fundamentals was to generate expectations of stable rates of exchange among member currencies and permit the introduction of a single currency created by a European Central Bank.

In this case the foreign exchange markets seem to have taken the fundamentals a bit too seriously and assumed that convergence had progressed to the point that there was no longer any potential exchange risk among EMS currencies. This created the so-called "convergence play"[7] in which high-yielding Italian, Spanish and UK government securities were purchased with funds borrowed in low-interest markets such as Germany, creating a large arbitrage profit which was unconstrained by normal considerations of exchange risk coverage because of the belief that rates would remain unchanged until a single currency was introduced. The fall in rates in the high-yielding countries, as their interest rates converged to average European levels, would then produce large capital gains. When doubts started to arise over the possibility of exchange adjustments relative to the dollar, holdings of British or Italian bonds could be hedged with derivative contracts, usually in DM or Sterling, since the Lira and Peseta did not yet have developed exchange-traded products. Indeed, for most of the period interest rate differentials more than covered any possible "within band"[8] exchange rate adjustment.

The currencies of the countries with the greatest "convergence burden" thus strengthened and their capital markets flourished, paradoxically making it easier for their governments to postpone adjustment of economic fundamentals and decreasing the pressure to meet the

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[7] The particulars for the period after 1987 are spelled out in Goldstein *et. al.* (1993, pp. 8ff). Koedijk and Kool (1993), suggest that a strategy of borrowing in the low interest rate countries and investing in the high rate countries would have produced positive returns, irrespective of devaluation losses, which dominated a strategy of speculation on realignments for the period 1979-1990.

[8] The greatest proportion of EMS realignments involved changes in the intervention band of an amount which was less than or equal to the size of the intervention band. Thus the band was simply shifted around a constant market value of the currency before and after the realignment, producing no potential for short-term speculative profits from shorting weak currencies against strong.

convergence conditions. Since weakness of a currency is often used to coerce politicians into introducing unpopular policies they are quick to invoke the strength of the currency on foreign exchange markets as a vote of confidence and thus as an argument against further adjustment. They can also point to the large foreign exchange reserves built up by the central bank "defence" against excessive strength of the currency. The incentive to meet convergence conditions in the high-inflation EU countries was thus reduced by the existence of convergence play capital flows.

Despite the dramatic and continuous deterioration of both fiscal and external balances, these "perverse" convergence flows were only reversed when political considerations suggested that there might not be full backing among member states for the Maastricht Treaty. As all the convergence players attempted to reverse their positions at the same time they were joined by astute hedge fund operators who recognised that such a reversal would create a major market imbalance in foreign exchange and domestic capital markets. The result was the September 1992 crisis in the Exchange Rate Mechanism which eliminated two of the major European currencies from probable participation in the common currency scheme, and severely challenged the ability of the French to sustain its convergence inspired domestic economic policy.

(b) The Spread of Instability to Emerging Financial Markets

A similar scenario was played out, with a two-year delay, in Latin American foreign exchange and financial markets (cf. Folkerts-Landau and Ito, 1995). The resolution of the Latin American debt crises of the 1980s had two seemingly irreconcilable prerequisites: to reduce the debt service burden on the developing country borrowers and to avoid losses to the international bank lenders. The first was required in order to prevent political crisis which would have resulted from the decline in economic activity required to produce payments surpluses sufficiently large to meet current interest payments. The second was required to avoid disruption to the international payments system which would have resulted from the failure of large international banks, many of whom had lent multiples of their equity capital to developing country borrowers and were already technically insolvent The problem was to find a way to restore capital flows to the developing countries without the banks having to commit additional funds. Since it was obvious that the arrears on the debt could not be repaid, rescheduling was not a definitive solution to the problem. The resolution could only be achieved by getting the debt out of the banks' loan portfolio and into the trading portfolio, through the means of securitisation of bank debt into market equity. The large banks took the first steps by becoming traders in the LDC debt of the banks who chose to

liquidate their holdings rather than participate in rescheduling. In doing so they made the debt marketable and liquid, providing an increase in value, as well as generating some earnings on trading spreads and commissions which could offset the non-accrual of interest income. This led to a number of schemes, such as debt equity swaps, etc., which allowed banks to move debt off their books and LDCs to reduce current interest and postpone principal repayments.

To increase their ability to reduce outstanding debt, debtors were encouraged to engage in the liberalisation of their economies. This served a dual purpose of providing funds to extinguish bank debt, and gave the banks the opportunity to earn income by analysing, advising, underwriting and trading the shares in the newly privatised companies. But, privatisation alone was not sufficient, the new owners required profit opportunities, and these were provided by the full scale opening of the economy to trade and exchange convertibility. The introduction of sound economic policies, which meant privatising state holdings, liberalising domestic capital and foreign exchange markets, and eliminating trade barriers, would then attract "non-debt" creating capital flows which could provide the finance for recovery of growth to politically acceptable levels (cf. IMF, March, 1995).

Again, international investors appear to have anticipated the underlying structural changes, and in countries such as Mexico capital flows started to move even before there was any perceptible improvement in fundamental conditions. However, unlike the case of European convergence, Mexico did make real progress in changing it economic policies, opening domestic markets to foreign competition, eliminating the government budget deficit, undertaking substantial privatisation and adopting an incomes policy which brought inflation rates down to single digits by 1994.

But, as in the European case, a cumulative process emerged in which the increased flows of funds to Mexico reinforced and confirmed the expectations of foreign investors that exchange risk was low and potential gains high. On the principle that the first into the rising market makes the greatest profit, investors sought out other "Mexicos" and soon funds were moving to Argentina, Brasil and other Latin American countries in order to benefit from the expected improvements. Just as the convergence play had been a one-way bet, "emerging" equity markets in Latin America became a one-way bet. These markets were originally called "emerging" because the countries were emerging from the depressed financial conditions due to the debt crisis. The name was soon extended to any small, local equity market in a developing country which had a small proportion

of foreign ownership. Under this new definition, the market emerges when it attracts substantial flows of foreign investment funds.

Financial theorists had a ready theoretical justification for what investors were already doing. In the capital asset pricing model, the "market portfolio" should in theory include all investment assets. Although this is clearly impossible, the equity portion of the market portfolio could be extended to include all securities traded in the world. Investment in these high-risk "emerging" markets was thus presented as prudent reduction of market risk. As investment banks and money managers started to include these small, local developing country markets in their benchmark reference portfolio they automatically became acceptable investments, and it became incumbent on every investor to include them in his portfolio.

The process global diversification was based on a deadly fallacy of composition. One investor can change the weighting of his portfolio to include 1% Mexican stocks without this decision having a large impact on Mexican stock prices. If the worlds' major investors all decide to move to a 1% weighting, this can only occur if the market capitalisation of Mexican stocks increases. This can only occur if more companies are quoted, if existing companies issue more stock, or, as was the case, if prices rise until global investors have 1% of their portfolios in Mexican stocks. If the prices of Mexican stocks had previously reflected the underlying fundamentals of the companies, they clearly no longer did so.

Thus, an anomaly was created, similar to the changes in value of a stock which enters the S&P 500 stock index. This benchmark effect is self-reinforcing, for the higher the valuation of the emerging market the larger its share in global capitalisation and the higher its benchmark weighting. The better the market's performance relative to other markets, the more likely a recommendation for over-weighting. Since the emergence of these markets arose in the presence of falling US interest rates and after a substantial run-up in US stock prices, their high total returns made emerging markets even more attractive. And again, the cumulative process of a seemingly risk free interest rate arbitrage was set into motion, borrowing in low interest rate dollars to invest in high yield emerging market stocks.

This created another self-reinforcing process, as the central bank had to intervene to prevent the currency from appreciating out of its announced step devaluation. This caused exchange reserves to swell, and made investors even more confident in the predictability of

exchange risk. It also meant that if the bank were to stick to its adjustment targets for monetary expansion the reserves had to be sterilised, which acted to further increase interest rate differentials. Such an approach may have additional negative consequences if the interest rates payable on the newly issued government debt required to achieve sterilisation are higher than the interest earned on the increased foreign currency reserves, thus adding to the foreign imbalance (cf. *Trade and Development Report,*).

It did not take long for the impact of the rising Mexican market to cause advisers to extend their portfolios to other formerly debt-ridden countries, many of which had less ambitious adjustment policies. But, by this time economic fundamentals had become irrelevant, for the driving force had become the risk reduction through global portfolio diversification. Just as the capital asset pricing model demonstrated that selecting "good" stocks based on their fundamental value was impossible and irrelevant, the same was true of selecting country markets with 'good' economic fundamentals. Ironically, just as countries were being advised that they could acquire foreign capital flows and domestic stability by introducing sound fundamentals, the financial theorists were advising investors that economic fundamentals were unimportant and thus irrelevant to the direction of capital flows.

In spite of the policy improvements mentioned above, the Mexican economy was characterised by the same high interest rates, rapidly expanding external deficit, overvaluation of the exchange rate and capital inflows which were seen in the high-yielding European countries. Just as the non-debt creating capital flows left Spain and Italy, France and the UK in 1992, they also left Mexico when there was doubt created over the commitment to exchange rate stability and the assessment of exchange rate risk shifted radically. Just as quickly as Mexico and other "emerging" markets were added to money managers benchmark global portfolios, they were given zero weighting and the "Tequila" effect swept the South American and Asian emerging markets without reference to geography or any economic fundamentals. The result was not only the undeclared insolvency of the Mexican government, upwards of 30% of private bank credits were in technical default, which meant that the banking system was also insolvent. In this crisis it was not the foreign financial institutions which were threatened with bankruptcy, it was the Mexican financial system. Mexico lost not only its external sources of finance, even its internal sources disappeared. Even at interest rates in excess of 50% there was little domestic lending for production uses. The Mexican economy, which had a peak growth rate of only 3% in 1994, suffered a decline of around 8% in real GDP in 1995, virtually eliminating the growth since the

introduction of the adjustment reforms. This was clearly more than two steps back.

B. Questions raised by financial instability

1. The new financial instability

The characteristic that differentiates the instability in more recent times from that of earlier periods is that it encompasses both foreign exchange markets and domestic financial markets. The decision to increase reliance on capital flows by developing domestic capital markets and privatising in order to create assets to trade in them has thus created an additional source of instability in these countries. Of greater importance to the present discussion is the impact of these capital flows on the performance of the developing economies. Already in 1991 the UNCTAD *Trade and Development Report* noted that while capital inflows may make adjustment easier, they also carry with them the risk of currency overvaluation as domestic banks find it cheaper to borrow in foreign currency terms, thus increasing the inflows from foreign sources. The strength of the currency may also lead to overconfidence and liberalisation of goods and capital markets before the underlying productive structure of the economy is ready to support free international competition.

In the case of the liberalisation of capital markets, which usually follows rapidly on this increase in foreign confidence, the result is seldom to open the way to financing for additional investment in productive capacity to aid in the adjustment process, but rather to allow domestic wealth holders the possibility to diversify their portfolios, selling domestic assets to foreign investors in exchange for foreign assets, protecting domestic residents from any loss of capital value should the flow of short-term capital be reversed. This provides a very strong local constituency in favour of the introduction of full exchange rate convertibility and rapid liberalisation of capital markets. This can be further justified by reference to the strong reserve position of the central bank, which is built up as it attempts to limit the overvaluation. It also creates an additional amount of capital which is highly attuned to the vagaries of conditions in domestic capital markets and thus ready to move quickly to avoid losses, thus adding domestic short-flows to external flows. It is noteworthy that these features of capital flows in developing countries are little different from the characteristics of those which have occurred in the developed countries.

2. *Is this market failure?*

The interesting common feature of the various cases of instability experienced since 1960 is that they are all preceded by a recommendation, usually based on an unexceptionable theoretical argument, that an increased role for market forces and more freedom in allocating capital will result in increased stability if accompanied by sound fundamental conditions. This was true of the stabilising speculators who were to insure exchange rates converging to fundamental PPP values under floating exchange rates in the 1970s. It was also true of the capital markets who were to respond to policy coordination with exchange rate stability, and in the absence of coordination, impose economically sound policies on governments in the 1980s. However, in every case, the individuals who take the decisions concerning the movement of capital and goods have been observed to ignore sound economic fundamentals. This may have been because of their own predilection, but usually their action was accompanied by a theoretical explanation of why market fundamentals are not of basic importance to the maximisation of wealth in the global allocation of capital. The basic contradiction between the theories which are used to recommend to governments policies to liberalisation of financial markets and introduction of sound economic policies and those which motivate the decisions which produce the capital flows in these markets are never noticed ex ante and usually pass unnoticed ex post. Indeed, this must be the case, for every episode of major instability is followed by a repetition of the same recommendation to introduce more deregulation and market freedom and for governments to place more emphasis on introducing policies to insure sound economic fundamentals.

It is interesting to note that Irving Fisher was one of the first economists to suggest that the traditional market mechanism may exhibit pathological behaviour in the presence of particular types of financial flows. His debt deflation hypothesis was couched within the context of the US economy. There is no reason why it should not apply to international financial factors. Fisher was joined in the 1930s by a number of economists such as Hayek, Hawtrey, Veblen and Keynes, all of whom suggested that financial flows, representing debt-credit relationships, could alter the traditional economic analysis of the operation of the market mechanism. It is possible to explain the policy dichotomy noted above in terms of theories which ignore financial flows as essential elements and those such as Fisher, which attempt to include them. The policy recommendations which have been made to enhance stability of exchange rates and financial markets are usually made on the basis of a model of the operation of the market mechanism in which money and financial factors play no role, or else presume that monetary factors are of significance in the short

run, but have no impact on the long run trajectory of the economy.

A clear example of an adaptation of the approach of Keynes and Fisher in the work of a market practitioner may be found in the work of George Soros, head of the Quantum Fund. He suggests that the decision making processes of financial markets are better understood by means of the theory of reflexivity, a process of cumulative causation which is capable of explaining experiences such as the erratic behaviour of the dollar in the 1980s. In Soros' view, the typical representation of individual behaviour presumes that the external environment is given. But, in financial markets, the investor is always part of what is being analysed and explained. Keynes thought that economics should be considered a "moral science" because unlike Newton's apple which has no choice about the velocity at which it will fall to the ground, economic agents do have the possibility to decide not to act according to economic laws. Economics thus suffers from the social sciences equivalent of Heisenberg's "uncertainty principle", or a scientific moral hazard. Forecasting models used to make economic predictions are all based on attempts to identify regularities in the behaviour of economic agents--they tell us what would have happened if no one attempted to adjust behaviour in the face of unexpected economic conditions, usually because all possible eventualities have been foreseen. These stabilities are represented in the parameters of the behavioural functions. However, when agents are dissatisfied with their performance and attempt to do something about it by changing their behaviour, the "predictions" of the economic models will be based on behaviour patterns which have been discarded and will be consistently wrong.

But, if this type of behaviour is widespread, as it seems reasonable to assume that it is, this leads to two types of problem: For Soros, economic agents will have

-- "imperfect understanding" of how their actions influence events: there is no direct, independent correspondence between physical reality and our conception of that reality because it is not independent of our own thoughts and actions which we cannot observe externally as uninterested scientific observers. Nevertheless agents try to understand the impact of their actions on events, even to predict them by trying to predict the actions of others --this makes things worse because of:

-- "participant's bias" which results from our efforts to apply our understanding of the world to change the real world conditions we face. Participant's bias may be defined as the divergence between an individual's perception of events, i.e. what he thinks the likely outcome will be, based on past experience or a model of the operation of the world, and the actual course of events.

The interaction of these two factors leads to what Soros calls "Reflexivity", defined as the

combination of:

the cognitive (or passive) function: the effort to understand

$y = f(x)$ and

the participating (active) function: the impact of ratiocination on behaviour

$x = g(y)$.

Together they yield Reflexivity: $y = f(g(y))$.

This type of relation cannot produce an equilibrium state, rather it suggests a cumulative process of change. The objective of the successful individual investor or forecaster is thus to:

--identify cumulative processes

--predict the direction of change which occurs when x and y are self-reinforcing or reflexive.

In his book Soros gives the determination of exchange rate as example. The value of a country's exchange rate is usually thought to be determined by three factors. The trade balance is negatively, and the balance on speculative and non-speculative capital transactions is positively, related to the exchange rate; e.g. a higher positive balance of trade leads to a lower value for the exchange rate and a stronger currency. It is in motivating capital and other investment flows that reflexivity is most likely to be found. Capital inflows will be positively related to expected appreciation in the exchange rate and to a positive interest rate differential. In the period 1980-85 US interest rates were pushed up and inflation declined. A positive interest rate differential (US interest rates rose above German or Japanese rates) opened up relative to other currencies. Non-residents increased their purchases of dollar assets to gain the higher interest rates. This caused the dollar to start to appreciate. This attracted capital inflows from investors seeking capital gains from dollar appreciation. These flows initiated further dollar appreciation and further capital inflows. Even though the US trade balance started to deteriorate as US industry became less competitive as a result of the appreciation of the exchange rate, speculative flows continued to rise by more than the increase in the deficit on goods and services trade. The dollar thus continued to appreciate, causing the deterioration in the trade balance to accelerate. This positive cumulative relation may be expressed as follows:

$(\uparrow e + \uparrow\Pi) \longrightarrow (\downarrow S > \downarrow T) \longrightarrow \uparrow c \longrightarrow (\downarrow S > \downarrow T)$.

where e is the price of domestic currency in terms of foreign currency, S are speculative purchases of the dollar, T is the trade balance. Anyone who identified this cumulative process early would have benefitted from both the high interest rates and the capital gains from dollar appreciation. By means of a demonstration effect, successful speculators encouraged others in a spiral in which there was no natural limit, nor any need to refer to economic fundamentals. Indeed, in the case of the US dollar in the 1980s the obvious fundamental disequilibrium was quickly justified on the

grounds that the growing trade deficit was a rational reaction to the "fact" that real rates of return on investment in the US had risen far above those in the rest of the world as a result of the Reagan administration's supply side economic program.

All of the approaches which attempt to take financial flows into account are also characterised by the fact that they also make an effort to explain the historical experience of the post war period. They counter the idea that the market mechanism is either an efficient or rational allocator of economic resources in the sense of directing resources towards those employments where real returns are highest. Indeed, the reflexive approach suggests that returns will be highest in those investments which manage to attract the highest capital flows. It also suggests that exchange rates will be determined, not by the relative productivity of nations, but that this productivity may be determined by exchange rates. Nor are these relations immutable, for as Soros points out, agents may adjust their behaviour in the face of unsatisfactory outcomes. If this is indeed the case, then the rationale for combining free capital flows in unregulated capital markets with policies based on economic fundamentals cannot be considered as generally valid. This also means that unfettered capital markets cannot be relied upon to discipline government policies so as to make them mutually compatible or coherent. It also implies that the introduction of the appropriate, sound, government policies based on economic fundamentals, cannot be relied upon to produce stability in financial markets. The basic reason for this is that even if markets were stable, there is no guarantee that they would produce the appropriate levels of exchange rates and interest rates corresponding to the underlying real economic fundamentals.

3. *Can all countries have "sound economic policies?"*

Indeed, there is some question that markets would be more stable in conditions in which all countries introduced and successfully pursued sound policies. There is no reason to believe that the introduction of such policies would lead to convergence of interest rates or of expected rates of return on equity investments. Capital would still be allocated by money managers according to their expectations about return differentials. Avoiding clearly excesses in exchange rate or domestic policies would eliminate the possibility for one way bets. But, it should be recalled that operating sound policies did little to save France from speculative pressure in 1992-3, and Mexico's dramatic improvement in its budget position and inflation were as a much a cause of its difficulties. Indeed, the examples of Mexico and Italy show how difficult it may be to introduce appropriate exchange rates under conditions of floating. It was widely recognised in Italy as early as 1989 that the Lira

was overvalued. The same was true of the Peso, which in 1993 actually appreciated against the dollar. The objective evidence was the deteriorating trade balance. But, consider the choices the governments in both cases. Any attempt to cause a depreciation of the exchange rate would have met two risks. Any formal announcement of a desired depreciation could have caused a reversal of opinion and an uncontrollable and unacceptable instability. Alternatively, if there was no such reversal and market expectations remained unchanged, this would simply have raised the expected returns as the market expected continued strengthening and thus additional capital gains. What would have been required to bring about a reversal was a change in domestic interest rates, but this would have been tantamount to abandoning domestic stabilisation. Few central banks actively seek exchange market crises, and are happier with an inappropriate exchange rate which is under control than a sharp reversal towards a more appropriate rate which substantially overshoots the desired level. In these conditions there is no such thing as a slow convergence towards the equilibrium rate, for once this adjustment is initiated, foreign funds will be withdrawn, but not slowly. Once large portfolio flows have been built up which have pushed up the exchange rate, it is extremely difficult to unwind them without creating a panic in which everyone tries to exit simultaneously, causing market liquidity to disappear and crises to emerge.

C. Implications of Postwar Experience

It should now be clear that it is no longer credible to recommend more financial market deregulation, freer capital flows and each individual country looking after their own appropriate sound domestic economic policies as a recipe for financial stability and the continued expansion of productive capacity availing itself of all available resources. It is also clear that the coordination of sound economic policies represents insurmountable practical obstacles, the most important of which is agreement on the policies which should be introduced. Indeed, there are those who have argued that the current state of statistical knowledge is insufficient to provide even the information concerning the real performance of the economy required to take decisions on policy coordination.

The experience of the three historical periods suggests a continued deterioration in the ability to coordinate economic policies and an increasing divergence between appropriate economic policies and financial market stability. What is the cause of this deteriorating performance? The experience since the 1960s suggests that the basic reason is the divergence between the theories used to formulate government policy and those used in financial markets to guide their investment decisions. This is a difference which may be characterised following Schumpeter as that between

"real" and "monetary" analysis. As long as capital flows were non-existent, or minimal, and goods flows were the primary international linkages, real analysis provided a reasonably good approximation of the world. This is a world in which monetary factors are broadly neutral in the long run, real international relative goods prices are of importance and purchasing power parity will determine exchange rates, whether the system operates under fixed or floating exchange rates. However, as capital flows have increased, monetary factors took on increasing predominance and the real equilibrium came to be determined by relative nominal total market returns in the portfolio investors' domestic currency. But, unlike quoted goods prices, these decisions are based on expectations of future prices, which are by definition more volatile. The lower transactions costs and the reduced restrictions on capital movements which were introduced in the 1980s to increase "market discipline" thus have instead meant that the financial factors have come to dominate real factors in the determination of equilibrium values. Foreign currencies are now primarily financial assets, rather than means of international goods exchange. Financial flows are motivated by maximising risk adjusted rates of return across the global market portfolio of assets, rather than to provide the financing for current account imbalances. The design of policies for stability has to be based on "monetary analysis" if it is to have any hope of success. This also means that while capital flows may not be the cause of instability, they are its vehicle.

D. Remedies for Instability

The instability described in earlier sections is clearly related to capital mobility, fluctuations in exchange rates and financial deregulation, which have in consequence been the focus of policy proposals in the fields of regulation, taxation, macroeconomic policy and institutional reform. The rest of the paper consists of a commentary on a selection of these proposals, including attempts in some cases to point to directions in which they could usefully be further developed.

1. International legal regimes for capital flows[9]

The only global regime applying to international monetary movements is that of the IMF. But the most important obligations in its Articles of Agreement relate to current transactions and not capital movements. These are set out in Article VIII (which prescribes the obligation not to

[9] For a more detailed discussion of the international legal regimes for capital movements see UNCTAD (1994), Part Two, Annex to chapter 2, section C.

impose restrictions on payments and transfers for current international transactions without the Fund's approval), and in Article XIV (which specifies transitional arrangements for countries not yet willing to accept the obligations of Article VIII). Concerning international capital movements Article IV contains among the general obligations of IMF members regarding exchange arrangements the statement the one of that international monetary system's essential purposes is the provision of a framework facilitating the exchange of capital among countries. In more specific references to capital movements in Article VI, section 3 provides for the exercise by member countries of such controls as are necessary to regulate international capital movements so long as they do not restrict payments for current transactions. Section 1 of the same Article gives the Fund the authority to prevent the use of resources from its General Resources Account to finance a large or sustained capital outflow.

Thus under the IMF Articles of Agreement developing countries have considerable latitude regarding controls over international capital movements. Some of them have none the less undertaken obligations in this area as part of Treaties of Friendship, Commerce and Navigation or of agreements involving limited numbers of countries such as the North American Free Trade Agreement (NAFTA).

Developed countries on the other hand are subject to obligations under the OECD Code of Liberalization of Capital Movements and (in the case of members of the EU) under the EEC Council's 1988 Directive on capital movements and the Maastricht Treaty. The OECD Code classifies the great majority of capital movements in two Lists, A and B, to the former of which more stringent liberalization obligations apply. For much of the period of the Code's existence List A consisted principally of operations judged to have fairly close links to international trade in goods and services and to longer-term investment, while List B included operations in short-term financial instruments. But recently the scope of operations included in List A was extended to some hitherto covered by List B, and a number of previously uncovered money-market operations were added to List B.

The 1988 EEC Directive on capital movements forbids restrictions on those between residents of EU countries subject only to provisos concerning the control of short-term movements during periods of financial strain and certain measures necessary for the functioning of tax and administrative systems, and for prudential supervision. Under the Directive EU countries are also committed to endeavour to attain the same degree of liberalization of capital movements with third

countries as with each other. The provisions of the 1988 Directive are reinforced by the pertinent Articles of the Maastricht Treaty applying to the second stage of economic and monetary union which began in 1994. Once the third stage of this union starts, the imposition of controls over short-term capital movements during periods of financial strain for single-currency countries will continue to be permitted only with regard to non-EU countries.

2. *Measures used to control international capital movements*

International capital movements involve changes in the claims of a country's residents on non-residents, and vice-versa, in the form of real capital assets and financial instruments. A large number of different measures have been used by governments in both developed and developing countries to restrain such movements, some of them with a broad incidence and others aimed more specifically at narrowly defined sets of transactions. The measures include taxes as well as tax-like restrictions which exercise their effect on capital transactions by increasing their costs and thus reducing their profitability. Other restrictions involve more direct limits on capital transactions. Controls over capital movements are imposed in pursuit of both long-term objectives and shorter-term ones of macroeconomic policy.

Under the heading of controls with long-term objectives outflows of foreign direct investment (FDI) or medium- and long-term portfolio investment may be subject to licensing procedures, taxes imposed on purchases of securities abroad by residents, and two-tier exchange rates. Inflows may also be subject to licensing. Furthermore they may be limited by ceilings on levels of foreign ownership in some or all sectors (ceilings which may prescribe reservation for investment by residents in certain cases). Access to a country for foreign direct investors may be granted only on conditions designed to contribute to development or other national policy objectives.

Controls over short-term capital movements have to contend with the very large number of methods available to take advantage of opportunities for profit in the international markets for financial instruments. Amongst OECD countries such opportunities have progressively increased in response both to the liberalization of the international financial regime and, since the 1970s, to the proliferation of new financial techniques and instruments made possible by the rapid development of computer technology and electronic communications. Short-term capital movements are not necessarily effected via short-term financial instruments, since the profits which

motivate such movements may be best achieved through transactions involving longer-term assets, as is often true if there are liquid secondary markets for such assets. Thus control of short-term movements may include techniques already mentioned under the heading of FDI and medium- and long-term portfolio investment. But it must also be directed at the many other ways in which individuals and enterprises lend, invest, borrow or otherwise take financial positions at short-term, with an actual or potential impact on the movements of funds between currencies.

To some extent this objective can be met by controls on transactions which are clearly of a capital rather than a current nature such as the buying and selling of short-term financial instruments issued abroad. But in practice control of outward capital movements is likely to be impossible without recourse to more general measures of exchange control, many of which would also typically be part of a regime for restricting payments for current international transactions. These include the requirement for official permission to open foreign bank accounts, limitations on the size and use of currency that can be taken abroad by travellers, and regulations concerning the physical export and import of bills of exchange, securities, insurance policies and bank notes. Thus countries which do not restrict payments for international current transactions have to frame their regimes of capital controls in such a way as to avoid impeding such transactions.

Inward as well as outward capital movements can pose problems for macroeconomic management. Measures restricting inward capital movements include those mentioned above under the heading of controls imposed with long-term objectives. Other measures in this context comprise forbidding banks to pay interest on the deposits of non-residents or even requiring negative interest rates on such balances, limitations on banks' liabilities denominated in foreign currencies and on open positions in such currencies in relation to capital, and the imposition of differentially high (and possibly non-interest-bearing) reserve requirements on increases in such liabilities or in banks' liabilities to non-residents. Another measure likely to be particularly important in countries with currencies lacking developed forward markets is variation in the terms on which the central bank is prepared to engage in swaps. Moreover even in countries where swap facilities are readily available from commercial banks limits may be placed on their use other than for specified purposes such as trade transactions. Furthermore queuing systems may be used to slow the pace at which foreign bond issues are made by domestic entities, and sales of money-market instruments by residents to non-residents may be forbidden. Likewise special taxes may be levied on credits from abroad - a measure affecting non-financial as well as financial enterprises -, and cash deposits with the central bank, equivalent to a certain proportion of foreign borrowing by

non-financial enterprises, may be required, a control introduced into the German Aussenwirtshaftsgesetz in 1971 as the "bardepotlicht" (after Germany had earlier prohibited payment of interest on foreign resident accounts).

3. *Capital controls in practice: recent use by developing countries*

As noted in D.1, developing countries are under fewer constraints due to international agreements than developed ones regarding capital controls. They have in fact extensively used such controls on both inflows and outflows. In the earlier part of the postwar period those on inflows reflected mainly long-term objectives as to development and indigenuous ownership, and those on outflows the exigencies of balance-of-payments management and macroeconomic policy more generally. Recently, as some developing countries of Asia and Latin America have been integrated into the network of international financial markets, they have experienced the surges in capital inflows and the consequent problems for economic policy alluded to in A.6(b).

As part of their policy responses to these surges, many of the recipient countries have employed both of the major categories of measure described in D.2 above, namely tax and tax-like restrictions and more direct limitation of external financial inflows. For example, stamp taxes have been applied by Chile to foreign borrowing, and taxes at various percentage rates have been imposed by Brazil on the value of both foreign investment in the stock market and external bond issues. Other actions to reduce the profitability of foreign borrowing have included the imposition of special reserve requirements on almost all capital inflows by Chile, and non-remunerated reserve requirements on foreign-currency borrowing by Colombia. Mexico has imposed restrictions on the uses to which foreign borrowing can be put with the objective of reducing its profitability. A number of countries (for example, Indonesia, Malaysia, Mexico, Philippines and Thailand) have placed restrictions on various categories of international transaction and position taking by banks with the same objective or with that of reducing foreign borrowing more directly. A queuing system has been used by Indonesia to slow foreign borrowing by private firms. Steps to restrain the level of net capital inflows have also included liberalization of capital outflows (by, for example, Chile, Colombia, Philippines and Thailand). Another policy instrument worthy of mention in this context is the widening of the band within which a country's exchange rate is permitted to fluctuate in order to increase risks to foreign lenders and portfolio investors.

4. *Indirect Measures to Control Capital Flows*

(a) Capital Requirements

The primary function of banks' capital is to absorb losses which might otherwise threaten their continued operation. In consequence the adequacy of a bank's capital is a major concern of its regulators. But, if the permitted size of balance sheet positions is linked to the capital supporting them, such requirements can also restrict the scale of a bank's involvement in particular activities. The possibility of using the route of capital charges on banks' foreign exchange positions as a way to restrain currency speculation was explored in UNCTAD's 1994 *Trade and Development Report* (UNCTAD, 1994). At that time this approach to have the advantage of building on a 1993 initiative of the Basle Committee on Banking Supervision (BCBS, 1993) concerning prudential standards for the supervision of banks' market risks including those resulting from their positions in foreign exchange. Under this proposal capital requirements were imposed on banks exposure due to different categories of currency transaction (as well as transactions in precious metals) according to one of two methods. Under the "shorthand method", the capital requirements were to be 8 per cent of a "net open position" defined as consisting of the sum of the greater of the short or long positions in different currencies plus the total of each net positions short or long in precious metals, regardless of sign.[10] The 1994 *Trade and Development Report* noted that an internationally agreed surcharge on capital requirements at this level might be imposed to increase the costs to banks of currency speculation. Agreement on such a measure would have to include all financial centres to prevent its frustration due to the flight of trading to jurisdictions where the surcharge did not apply.

However, the feasibility of this approach has been reduced by the adoption by the Basle Committee of a different set of procedures for determining capital requirements to cover market risk, adopted in response to widespread criticism by banks of the initial 1993 proposals (BCBS, 1996). Under the new procedures, intended to serve as the basis for regulations which will be implemented by the end of 1997, banks will be permitted to use proprietary risk management systems to measure market risks as an alternative to the standardised framework proposed in April 1993. The core of this alternative is the setting of a bank's capital charge on the basis of a measure generated by its in-house model of the value at risk of its trading book, that is to say of the maximum loss on the trading book expected during some period at a specified level of confidence.

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[10] A similar approach to capital requirements for foreign exchange positions is embodied in European Community Council Directive 93/6/EEC of 15 March 1993 on the capital adequacy of investment firms and credit institutions, published in *Official Journal* L 141/1, 15 March 1993.

Under this alternative some allowance for offsetting correlation effects between broad categories of risk (interest rates, exchange rates, equity and commodity prices) is now permitted, so that the market risk associated with foreign exchange positions will no longer necessarily be segregated as under the Basle Committee's earlier proposal. Use of the standardised "short-hand" method remains a possibility but widespread use by banks of proprietary models to generate their capital requirements will mean that estimation of these requirements will not be carried out on a uniform basis. The new procedures have implications for the imposition of capital charges as a measure to restrain currency speculation. Such charges remain a policy option. However, the option would be at variance with the new approach to managing market risks embodied in the revised guidelines of the Basle Committee. Thus recourse to such charges is more likely as part of an emergency policy response to a crisis in the foreign-exchange markets than as a measure imposed on a more permanent basis.

(b) Taxation of foreign Exchange Transactions (Tobin Tax)

Another proposal, which might also be considered as likely to be permitted under existing regimes for capital controls, is a tax on foreign exchange transactions, originally put forward by James Tobin (1978). Dornbusch (1986) and Bhaduri and Malzner (1990) have made similar proposals which build on Tobin's idea. The proposal has also attracted attention as a source of revenue for various international purposes. Here discussion will be limited to practical questions concerning its application as a measure to reduce financial instability.

The design of the tax, in particular its level and coverage, cannot be divorced from consideration of its likely effects. Yet conclusions as to these effects are still speculative. Proponents of the tax have noted the way in which the expansion of currency trading has been accompanied by increased exchange-rate volatility. Thus if the tax succeeds in reducing the volume of trading, so the argument continues, it should also reduce volatility. There is indeed evidence that low percentage taxes or charges can have significant effects on both the levels and character of transactions. To take one recent example, the fee of 10 basis points imposed by the Federal Reserve on daylight overdrafts in April 1994 reduced their amount by about 40 per cent in the subsequent six months (Richards 1995, p. 1071). Another example is given in analysis of the stock market crash of October 1987 in the publication, *The Quality of Markets Report* (reprinted in Kamphuis et al., p. 333), which attributed the limited role of programme trading in London at this time partly to tax and stamp duty. More mundanely it should also be recalled that mutual funds

Kamphuis et al., p. 333), which attributed the limited role of programme trading in London at this time partly to tax and stamp duty. More mundanely it should also be recalled that mutual funds sometimes impose exit fees on shareholders which vary inversely with the holding period. (See, for example, Bogle 1994, pp. 193-194). These charges act as a disincentive to herd selling by shareholders (though the consequent impact on the funds' investment managers is only indirect). However, while such examples clearly point to the existence of a relation between transactions charges or analogous measures, on the one hand, and the behaviour of investors and asset managers, on the other, in themselves they do not lead to any conclusions about effects on price volatility.

In this context there is some pertinent quantitative evidence from studies of stock markets, where transactions taxes have also been under consideration as a policy measure since the crash of October 1987. Umlauf (1993) reports that the introduction of transaction taxes in the Swedish stock market caused an increase in volatility, and that daily variance was highest when the tax was greatest. Jones and Sequin (1995) investigate the change in volatility after the elimination of fixed commissions in the Mayday events on the New York Stock Exchange. Their results confirm those reached by Umlauf and "suggest that the logic of increasing transaction taxes to reduce the impact of noise traders and, therefore, to reduce volatility, does not withstand empirical scrutiny. Indeed, our results indicate that increasing transactions costs through any avenue may well have an effect exactly opposite from that intended" (Ibid., pp. 16-7). Although these results are not directly applicable to the foreign-exchange market, they should give pause to advocates of transactions taxes for restraining volatility.

Two other observations based on more general considerations should be made here since they bear on the relationship between the possible effects of a foreign-exchange transactions tax and its design. Firstly, even at the low rates proposed by advocates primarily concerned with revenue raising rather than the reduction of speculation a tax on foreign-exchange transactions might well have an important effect on the structure of the market. While a rate of, say, 0.1 per cent could be expected to have at most a limited impact on all but very short-term transactions of final customers, the same would not be true of dealers. The bid-offer spreads in inter-dealer transactions, which cover the costs and profits of such trading, are typically of the same order of magnitude as a 0.1 per cent tax. Thus even at this low rate the tax could well lead to a substantial reduction in inter-dealer transactions, accompanied in all likelihood by the exit from the market of many dealers. The result might well be a rise in spreads and in the cost of the provision of foreign

exchange for current as well as capital transactions (Steindl, 1990; Davidson ...), but the rise in costs would probably be small, for current transactions particularly so in comparison with the reductions in taxes on international trade resulting from postwar tariff-cutting exercises. The second matter which needs to be mentioned here is the greater complexity of the techniques through which traders now take positions in the foreign-exchange market. These positions often involve combinations of transactions including recourse to derivatives. As a result currency volatility depends on trading behaviour in a number of different, though closely related, markets. To be effective, a transactions tax should thus presumably apply to all these markets. (As a result of this multiplication of markets forecasting the effects of a transactions tax also becomes correspondingly more difficult.)

Of the many problems of tax design this section takes up two, namely the location at which it would be imposed, and the range of transactions or instruments which would be covered. The question of location has been subjected to a thorough discussion by Peter Kenen (1955) in a paper recently prepared for UNDP. He plumps for the location or locations at which the deal is made in preference to the site or sites at which the deal is booked (which would not be the same if booking is done at the head offices of the overseas branches of the dealers' banks) or to the country in which settlement takes place (when settlement, for example, involves the transfer of sums between banks' correspondents). Kenen also proposes that the tax on inter-dealer transactions be split equally between the two counterparties.

Regarding the categories of transaction which would be subject to the tax, reference has already been made to the need for comprehensiveness owing to the increased recourse to untaxed transactions which could otherwise be anticipated. This is not to suggest that even a carefully designed version of the tax would be completely watertight. But the importance of loopholes and vehicles for evasion is probably easy to exaggerate. Synthetic substitutes for currency positions would be relatively expensive to the extent that they involved transactions in a number of different instruments. Blatant intention to evade might serve in many jurisdictions as the basis for legal action by tax authorities. Moreover the initial design of the tax could be modified in response to financial innovation intended to frustrate its purpose.

Some of the problems of design for a comprehensive tax are none the less difficult. Spot and forward transactions seem relatively straightforward: the tax could be assessed at a percentage rate on the transactions' value. In view of the fact that foreign-exchange swaps, which combine

simultaneous spot and forward transactions, are typically priced in the market as a single transaction, they might be treated in the same way for the purpose of the tax, being assessed on the same basis as simple spot or forward deals. But this does not exhaust the problems of tax design for these transactions. For example, the timing of the tax obligation must still be decided. If foreign-exchange swap transactions are to be treated in the same way as spot transactions, there would seem to be an argument for setting the date of all these three types of foreign-exchange transactions for tax purposes as that on which they were initiated. But this procedure would raise the question of whether the notional value of longer-term forward transactions should not be subject to a discount for assessment of the tax. And so on. Currency futures might also be taxed at a percentage rate on the notional value of the contract. In this case the tax, if imposed at the time when the contract is initiated, would have an effect on cash flow similar to an increase in the initial margin,[11] though the money in question would not be at the disposal of the owner of the futures contract to meet subsequent obligations in the form of variation margin due to movements in the contract's price. In the case of currency swaps[12] the transactions tax might be imposed on the streams of netted payments[13] and on exchanges of principle, since these payments seem to correspond most naturally to the actual foreign-exchange transactions associated with such swaps. In view of the use of netting in connection with currency swaps, expanded recourse to them might be expected if a foreign-exchange transactions tax were imposed, and the tax would also act as an incentive to the suppression of the exchanges of principal now usually associated with swaps.

Designing a transactions tax for currency options is likely to be particularly difficult. One solution might be to tax them only when they are exercised. However, this would leave untaxed options positions settled through offsetting in the options market (i.e. in the form of sales of contracts by longs or buyers, and purchases by shorts or sellers), and could be expected to enhance the attractiveness of currency options in comparison with other transactions as an instrument for

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[11] Initial margin consists of the sum in the form of money and securities posted by buyers and sellers of futures at the time of the initiation of contracts. The sum is typically in the range of 5 to 15 per cent of the price specified in the contract, the precise proportion being related to the contract's volatility.

[12] Currency swaps (which are to be distinguished from the foreign-exchange swaps mentioned above) involve the exchange of series of payments denominated in different currencies. Under currency swaps, unlike interest rate swaps which entail the exchange of payments denominated in the same currency, the payments typically include both interest and the underlying principal.

[13] Netting refers to the practice of setting off payment obligations between two counterparties so that only a single net payment is made to settle the residual obligation.

hedging and portfolio management as well as speculation in connection with currencies. Stiglitz (1989, p. 14) has proposed taxing options at 50 per cent of the strike or exercise price on the ground that buying a call on the underlying asset and selling a put on it is equivalent to a long position in the asset itself. But this equivalence is valid only when the exercise price of the option is equal to the price of the underlying asset, a condition which does not generally hold. Nevertheless, Stiglitz's idea may point towards a fruitful approach to tax design for currency options, namely the breaking-down of options positions into equivalent combinations of other contracts for which the design of transactions taxes is easier.

Another point which also has to be faced in discussion of the practicality of the Tobin tax is the effect of refusal by some financial centres to impose it. Kenen (1995) suggests one approach to this problem, the taxing of transactions with tax-free trading sites at a punitive rate. But he himself admits that while this could act as a strong disincentive to the migration of foreign-exchange trading to smaller financial centres, it would not be an effective response to the refusal of a major financial centre already used by many traders (say, London) to join the scheme. There does not appear to be any solution to the problem in this case other than the patient pressure of attempts to persuade.

(c) Alternatives to the Tobin Tax

A number of alternatives to Tobin's original proposals have been advanced with similar objectives. These are framed to avoid problems such as those due to the difficulty of defining a foreign-exchange transaction or to the necessity of its global application. Dornbusch (1995), for example, has proposed taxing all cross-border payments. While this approach has the virtue of simplicity, it would not eliminate all forms of evasion, since it would not be imposed on back-to-back transactions.[14] Moreover since it adds to the costs of a wider variety of transactions than the Tobin tax, there is a risk that Dornbusch's proposal would meet with correspondingly stronger political resistance. Under this heading the proposal is also open to the objection of Davidson (...) that the tax would be borne disproportionately by current rather than capital transactions.

An alternative to taxing foreign-exchange transactions for the purpose of reducing currency

[14] Back-to-back transactions can be illustrated with the example of an arrangement under which one company lends its currency to another company or to another company's subsidiary in return for an offsetting loan in the borrower's currency for itself or one of its subsidiaries. Such an arrangement enables the avoidance of cross-border payments in connection with the loans.

speculation which might naturally occur to many economists would be to tax the short-term profits of currency trading at a punitive rate. Such a tax might be regarded as an instrument designed to achieve for currency trading objectives analogous to those for stock trading of the 100-per-cent tax on short-term gains proposed by Warren Buffett.[15] An internationally agreed tax of this kind would have to raise the taxation of short-term profits from currency trading to a uniform level if it were not simply to lead to the emigration of foreign-exchange business to lightly taxed jurisdictions. Putting such a tax in place would seem a tall order but the problems involved are none the less worth examining a little more closely.

Profits from trading, including that in currencies, are generally already subject to taxation, so that the base for an internationally agreed tax could be readily identified. But pre-existing tax systems would pose difficulties to the design of a supplementary international tax. These systems vary considerably among countries and, in the case of the newer instruments through which foreign-exchange positions can be taken, are often underdeveloped. Moreover in several countries the systems incorporate concepts inconsistent with the across-the-board approach on which an internationally agreed tax on trading profits would presumably have to be based.

For example, in many countries the tax treatment of profits associated with positions in currency futures and currency swaps depends on whether they are held for the purpose of hedging or speculation, the distinction frequently being related to the corresponding accounting treatment.[16] Since the objective of taxing short-term profits on foreign-exchange trading would be precisely to restrain speculation, there might seem to be an argument for incorporating the same distinction in the internationally agreed tax. However, achieving agreement on this subject as on many other technical aspects of such a tax could be expected to be, if anything, still more difficult than on the practicalities of a transactions tax. Furthermore bringing all major countries on board would be no less necessary, and for the same reasons.

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[15] Under Buffett's proposal all gains from the sale of stocks or derivatives securities held for less than a year would be subject to the 100-per-cent tax. As Buffett himself puts it, "there would be no profit to [an investor] from [his] capital allocation decisions unless they had a time horizon of at least one year". The proposal could be expected to lead to a drastic reduction in the trading of options and index futures. For the quotation and commentary see Lowenstein (1988, pp. 86-87 and 200-208).

[16] See, for example, the discussion of the taxation of banks' profits in the chapters on Belgium (by J. Buelens and W. Vandenberghe) and France (by N. Dejean) of Ernst and Young (1993).

3. *The elusive nature of speculation*

The original Tobin proposal, as well as other variants such as Dornbusch's proposal to tax all cross border transactions and the TOSTAB (Tax on Speculative Transactions Across Borders) proposed by Bhaduri and Matzner, in addition to seeking to reduce short-term speculation by increasing transaction costs, seek to make exchange rate correspond more closely to "economic fundamentals" by making capital flows more permanent and long term in nature. "The hope that transactions taxes will diminish excess volatility depends on the likelihood that Keynes's speculators have shorter horizons and holding periods than market participants engaged in long-term foreign investment and otherwise oriented toward fundamentals" (Eichengreen, Tobin and Wyplosz, p. 165). However, one of the most important changes which have been introduced into financial markets by derivative products is the elimination of a sharp distinction between long and short-term investments. For example, the nature of options contracts is to allow an investor to maintain a long-term position for gains and a short-term position for losses. Portfolio insurance was designed to allow long-term investors to cover short-term risks. Writing covered call options is a method to increase the long-term return on a position. On the other hand, long-term decisions produced by means of structured derivative products may require a degree of short-term liquidity which is beyond the normal capacity of market lenders. The difficulties faced by Metallgesellschaft are a case in point. Here, what now appears to be accepted was a sensibly hedged long-term strategy had to be liquidated at a loss because the short-term carry cost was excessive [Reference].

In modern financial markets the traditional distinctions concerning the "maturity" or permanence of an investment no longer have the same meaning as they once did. It is now possible to produce the equivalent of the on the run thirty-year bond by means of going long T-bills and buying bond futures contracts. On the other hand, the long bond can be purchased and broken down into its component parts to produce 31 different registered instruments over thirty years (or over 400 with maturities of one year or less for various future dates which are the equivalent of futures contracts). Long-term bond equivalents can also be created by borrowing floating-rate and swapping into fixed-rate payments. It is thus no longer clear what it means for investors to have "long-term" horizons and to undertake "permanent" investments. Added to this is the fact that currencies are now considered an investment class on their own. The imposition of increased transactions costs on foreign currency transactions would thus simply disrupt the process of arbitrage across different national money markets which is supposed to operate to bring currency values into line with fundamentals as well as limit the risk management of international

investors.[17]

What those who recommend long-term investing seem to have in mind is that investors should be involved in only buy and hold strategies and never use leverage. If this is what long-term investment means, then it seems clear that transactions taxes are not the most efficient means of achieving this effect, irrespective of their impact on volatility. Ever since the work of Keynes and Hicks in the 1930s, economists have been aware of the fact that money may serve as a store of value as well as a means of payment. Keynes explained the possibility of less-than-full-employment equilibrium in terms of liquidity preference, and excessive asset demand for money (this is what we would now describe as short-termism) leading to an excessively high nominal rate of interest relative to the returns which could be made on employment creating investments. Since 1970 foreign currency has also shifted from being primarily a means of payment to being an international investment asset in which excessive liquidity preference may lead to excessively high returns in terms of excessive devaluations and domestic rates. The problem is not the functioning or the efficiency of the market mechanism in achieving nominal rate which approach fundamentals. There is no reason why they should once money (national or international) becomes an investment. The problem is to reduce excessive liquidity preference, not to reduce the excessive use of international money as a means of exchange. From this point of view, transactions taxes seek to cure a problem which arises from the asset nature of money by limiting the use of money for transactions through a reduction in its liquidity premium effected by increased transactions costs. But, this does nothing to decrease liquidity preference, it can only shift demand to some other asset, or cause the premium to increase. The problem from this point of view is to find a way of harnessing the market to function in ways which achieve desired "fundamentals", which means reducing the demand for liquidity.

4. *What can we do to reduce liquidity preference?*

The two major causes of increased financial market uncertainty were the introduction of floating rates in the 1970s and the extensive financial deregulation in the 1980s. There is some reason to believe that the latter has done much to increase the overall level of real and nominal interest rates (UNCTAD 1991, p. 106), while the former has done much to elevate foreign

[17] One of the major uses of interest rate swaps is to manage the duration of a portfolio. It has also now become common for portfolio managers to sub-contract the currency risks of their global portfolios to "overlay" managers.

currency to an investment asset. This suggests that the aim of proponents of transactions taxes is to reproduce the equivalent of a more regulated financial system with fixed exchange rates. But can this be done?

(a) Monetary Union

From this poinr of view, the search for solutions should start in the monetary plumbing of the international financial system. The first and most obvious solution is to do away with the plumbing altogether by abolishing exchange rates and introducing a single currency. The current experience of the European Union is not encouraging in this respect. Its approach is based on the underlying idea that the successful introduction of a single currency requires convergence of all potential members co sound fundamentals, which will cause exchange rates to stabilisc at their equilibrium values. Howcvcr, if there is no theoretical reason for exchange rates to converge to thesc values in the presence of free capital flows, then there can be no assurance that convergence will *ever take* place. Although the end result would resolve the difficulties, there appears to be a unresolvable sequencing problem involved in getting there (Eichengreen, 1994).

(b) A Single International Money and a Supra-National Bank

Altemativcly, it would bc unnecessary to introduce a new single currency if the role could be played by a dominant national currency. Triffin (e.g. Triffin, 1966) has highlighted the difficulties of using a national currency as an international means of paymenr, although some of thesc problems would be moot if it were to be sanctioned as the only international currency. But this would raise questions of sovereignty which are even more difficult than those surrounding the creation of a supra-national bank and a supra-national currency. Such proposals were popular in the inter-war period (Keynes, 1930, vol. II) and have also been advanced in response to the dollar crisis of the post-war period (Triffin, 1968; Grubel, 1963). In the cnd. all such proposals require the sacrifice of national sovereignty over economic policy to a common international policy set by an international body and thus fall under the general heading of international policy coordination which has been experimented with in the Plaza Agreement

The form of cooperation introduced by the G-5 at the Plaza was strongly influenced by a rather different approach. Recognising the difficulties of a rapid return to fixed exchange rates, Williamson *(1983)* had recommended the use of soft-edged "target" intervention zones established

around real central rates baptised FEER's or fundamental equilibrium exchange rates. After its implicit adoption without acknowledgement by the G-5 and then G-7, the form of cooperation was given more formal expression in the shape of a policy "blueprint" (Williamson and Miller, 1987). However it was subsequently abandoned for lack of political commitment. The approach adopted used nominal, rather than real central rates, and they were kept secret from market operators. This is in fact closer to an alternative version, based on "target zones" determined by nominal rates, advanced by Krugman (1991). However, Taylor (1995b, p. 41) notes that this approach to target zones "has met with spectacular empirical failure".

(c) Targeting domestic inflation

The difficulties with coordination and restoring the fixed exchange system with wider intervention bands has led to the resurrection of the approach of individual policy. For example, Obstfeld and Rogoff (1995, p. 74) argue that "even broad-baud systems à la (sic) EMS pose difficulties, and there is little, if any, comfortable middle ground between floating rates and the adoption of a common currency." They argue that it is nor impossible for a central bank to keep a fixed exchange rate, noting that in most cases foreign exchange reserves exceed the outstanding money base" , so that a central bank which was determined to keep the foreign price of its money base fixed could technically do so by buying in the entire base. However, "the real issue is a government lacking the political will to subordinate monetary policy single-mindedly to the exchange-rate target" (Ibid.. p. 86). Instead of reform of the international monetary system, "A broad range of empirical studies suggests that reducing domestic inflation and the instability it causes arc better addressed through basic reform of domestic monetary institutions" (ibid., p. 95). The pursuit of a low and stable inflation rate as the basic policy objective of an dependent central bank is thus recommended as the best defence against domestic instability and instability of the exchange rate.

This not only raises the question of whether sound policies followed individually will produce international stability, it also raises the question of whether price stability is a prerequisite for stable economic expansion. As Kaufman (1994. p. 12) notes "low inflation, while obviously

[18] It should be noted that the figures they quote are for total reserves, which may include large amounts of short-term arbitrage inflows which are really not under the control of the central bank for purposes of support of the exchange rate, but rather represent a charge on reserves. The problem is reminiscent of that faced by those who were charged with redefining the US balance of payments figures in the 1960s.

desirable in and of itself because it does contribute to a sturdy framework for a nation's economic prosperity, is nonetheless no guarantee against financial excesses. *History* proves this conclusively. The classic case for the United States was the decade of the 1920s, when inflation remained low, but financial excesses developed both in the equity market and in commercial real estate. In recent times, we have the vivid example of the mid-1980s. Inflation performance was exemplary: the rise in the consumer price index in 1986 was one of the lowest in the entire post-war period. But within the fabric of our financial markets there was developing some of the worst financial excesses of this century, a process that would eventually lead to massive financial failures, huge taxpayer costs, and a largely unforeseen credit crunch that would aggravate the business downturn and constrain the subsqucnt economic recovery. Arguably, low inflation is a necessary condition for financial well-being, but it is sure not a *sufficient* condition for financial well-being. That requires a more complex set of economic and financial circumstances grounded not only by a central bank's monetary actions but also by its role as the institution entrusted with assuring the safety and soundness of the financial system as a whole."

(d) Marker-Based Intervention

Part of the difficulty faced by reform is that it poses as alternatives, fixed or floating rates. One of the points which was dominant in the discussion of reform of the international system *in the 1960s was* the fact that a pure "fixed-rate" system with automatic market adjustment was a myth which never existed even under the gold standard (e.g. Triffin in Grubel, 1963). There was substantial central bank intervention, yet gold stocks were much smaller than the size of reserves held by central banks today. At the same time, capital flows were as great under the gold standard as they are to&y, and yet the system was broadly stable. What was the secret of the operation of the gold standard?

One of the most important elements was that it managed to exploit private market flows to reinforce stability, rather than the opposite. One method was direct intervention in foreign exchange markets. What intervention methods could be applied today?

(e) Foreign Exchange Marker Intervention

There is a long tradition of intervention by central banks not only in the spot but also in the forward foreign exchange market. Creation of forward markets as a vehicle for intervention

was urged by Keynes during the interwar period. Given the relation of forward premia to international interest rate differentials, Keynes proposed intervention in the forward market by the central bank as a way of influencing capital flows without changing official interest rates. The possibility of defending the spot exchange rate at no immediate. cost to official reserves, i.e. to produce what would today bc called sterilised intervention, through intervention in the forward market has been extensively employed, and such intervention played an important part in the defence of sterling as recently as the 1960s.[19] Forward exchange contracts are a form of derivative instrument, so that unsurprisingly the recent proliferation of derivatives has been accompanied by proposals for the use by central banks of the new instruments for the purpose of hedging their foreign exchange reserves and of intervention in the foreign exchange market.

For example, Taylor (1995a) has proposed that central banks purchase far-out-of-the-money pus options on their currencies as a technique for defending the exchange rate against the effects of large speculative outflows. The strategy would have relatively low costs since the out of the money options would have low premia In the event of a depreciation which the central bank could not offset with its existing reserves, the options could be cxcrciscd, thereby providing additional reserves to defend the currency_ Taylor points out that this positive influence on reserves will exist even ii' the central bank uses foreign exchange to sterilise the funds used to exercise the put contract.

There are many other potential uses of options for official intervention in the foreign exchange markets. For example, the sale of covered calls on foreign currency could also be used as part of the defence of an upper limit for a country's exchange rate. Likewise, in order to prevent an undesired currency appreciation dues to excessive capital inflows, the central bank might write put options on a foreign currency. The Hannoun Report even raised the possibility that by writing options and thus reducing the option premia central banks might also reduce implied volatility, thus causing a desired signalling effect helping to counter disorder in the foreign exchange market (BIS, 1994, pp. 49-50). The ultimate result of such inlervention is not clear, since changes in prices due to reduced implied volatility would have an additional effect on the delta hedging of options positions by dealers.

Derivative products clearly do provide central banks with additional instruments foi

[19] The locus classicus of historical information on forward markets is Paul Einzig who along with Keynes developed the theory of forward exchanges in the 1930s. See Einzig 1937, and 1961.

intervening in foreign exchange markets, but two caveats are in order. Firstly, not only niwt a market for options in the currency exist (and this often requires the existence of a futures market, as most options are written on futures contracts) but if intervention via options is to provide an effective alternative to that in the forward market, it should also be reasonably liquid. Secondly, a central bank might have to confront criticism similar to that which it faces in the event of the failure of efforts to defend its currency through intervention in the forward market - that it has provided the counterpart of speculators' profitable forward sales. In the case of the action proposed by Taylor the criticism might take the Form that the central bank was speculating against its own currency, and if its initiative were successful, that it had generated profits For banks in exchange for instruments which had expired unused.

(f) Financial integration as an alternative to fixed rates

Under the mythology of the gold standard as a fixed-rate system gold is presented as the primary means of international settlement and thus as the primary reserve asset. In reality, a purely private liability, the sterling foreign exchange bill, served this purpose; governments did not guarantee its value in foreign currency or their domestic money. Indeed, there was no market for foreign currency or domestic deposits other than that for the foreign exchange bill. Foreign exchange bills provided an endogenous, perfectly flexible, privately supplied means of payment for the international system. It was the "finance" bill which provided the short-term capital movements which assured that the "rules of the game" were never followed, since any deterioration of the foreign exchanges (i.e. an excess supply for sterling bills in the foreign exchange bill market) could be offset by small movements in international interest rate differentials in favour of London which would make it more attractive to hold funds in sterling in London. This would reduce the bills drawn on London, which reversed the excess supply of sterling bills in the foreign exchange bill market. It was profit motivated arbitrage. not price fixing by the central bank which provided the stability of the exchange (Krcgcl. 1990, pp. *246* ff).

This suggests that reform should attempt to reintroduce profit incentives Lo stabilising rather than destabilising capital flows. It also suggests that these incentives will not be unobservable factors, such as purchasing power parities. An example of such a proposal which attempts to build on profit incentives in private markets is that of Ingram (1962). If there is full financial integration in a region, banks would have to offer deposits in any of the region's currencies and would normally hold foreign currency deposits as primary reserves and short-term

foreign currency assets as secondary reserves. An imbalance in payments in any region, whether caused by current or capital account flows, would then require the banks in the deficit region to sell their holdings of foreign currency assets, thus increasing the domestic deposits of banks in the surplus country and decreasing them in the deficit country. Interest-rate differentials should move in favour of the deficit country. Surplus-country banks would then be attracted to the higher yields on deficit-country assets and increase their investment portfolio holdings, automatically generating a demand for the currency of the deficit country. In modern times, this seems to be the system which was applied in Austria in its more or less successful attempt to link to the DM.

(g) Systemic reform: *a clearing union*

A similar approach would be to redesign the system so that it creates incentives for private sector activity to reinforce stability. This would require changing the structure of the plumbing. By the time he came to consider planning for reconstruction after the second world war, Keynes had substituted a Clearing Union for a Supra-national bank. His idea was to replicate the beneficial features of the gold standard system in a new design For international monetary relations. There are clear advantages to such a scheme, in particular with reference to the support for global demand and adjustment policy, but it would also require a degree of coordination which is beyond what appears plausible. The Clearing Union proposal has been an inspiration for a number of reformers, in particular Triffin. The most recent proposal of this kind is Davidson (1992-3). Williamson (1992-3) provides a comparison of these proposals and his own "blueprint" approach (described *in* section D.4(b).

These proposals raise a more general question of distinguishing the symptoms from the disease. Many seem to suggest that it is the free flow of capital which is the disease, or more specifically, the increase in speculative trading in foreign exchange which has accompanied floating exchange rates and the disappearances of capital controls. On the other hand, it is also possible to view many of these movements as simply the symptoms which are created by the structure in which investment decisions are made. Thus, where some see excessive short-term trading as part of destabilising speculation, these transactions may also be seen simply as the natural result of foreign exchange dealers attempting to cover their trading risks.

It is not these short-term movements which are the cause of increased volatility or of increased instability. In suppon of the view that it is not these short-term movements which are the

cause of increased instability are the observations that volatility declined substantially after the introduction of derivative products to deal with the increased risk of floating exchange rates in the early 1970s. Since hedging activity requires a larger number of transactions and addition4 risk products mean a larger number of markets and dealers, the growth in short-term transactions simply represents the response of the system to increased instability, rather than a cause of ir. Measures to curb these risk management transactions would then increase, rather than reduce. volatility and inslability.

On the other hand, the flows which are capable of generating instability are those which are caused by the one-way bets which arc set in motion by trend-following trading. The problem is then to determine what sets of these trends, or initiates what eventually become "rational bubbles". One possibility would be that it is precisely these situations which recommendations to avoid "unsound policies" arc set up to avoid. But, experience suggests that countries manage to survive for long periods with more or less unchanged policies, sound or unsound, without suffering speculative runs. Indeed, it has been suggested that "speculative attacks" might be launched precisely in order to force countries into conditions in which their policies become unsustainable or generate vicious circles of devaluation or inflation. (See the literature cited in Folkerrs-Landau and Ito, 1995, p. 70.) The proposals for more radical reform of the system thus seek to introduce frameworks in which free capital flows can be made compatible with stability of exchange rates.

(h) Reform of Multilateral Institutions

The question of international adjustment, which was a major question at the original Bretton Woods conference, has received little attention in the context of financial market instability. At that time the focus was on the asymmetry of balance-of-payments adjusuncnt caused by trade flows. Today, adjustment is also of particular importance, but increasingly with respect to monetary policy and financial flows. As already noted. financial Rows may cause a country's external position and international competitiveness to depart from its underlying economic fundamentals. Just as symmetric adjustment was meant to give countries the possibility of maintaining domestic policy priorities in the face of transitory negative shocks to their trade positions, countries should also be able to maintain priorities in the face of random and transitory shifts in financial flows. Thus the original concerns for sharing he burden of adjustment are still valid.

Evaluation of national economic policies currently takes place within the International Monetary Fund's Article-IV assessments of member countries. Proposals have recently been made to extend this to policy review and coordination. However, since the Fund is not a lender of last resort for all governments, it cannot operate efficiently to discipline policies. In addition, the Fund is also constrained to operating after the fact, as in the case of the devaluation of the Mexican Peso. Similarly, the very act of borrowing from the Fund changes the way in which the Fund analyses a country's policies. As a creditor the Fund can only consider the best method of recovering the funds it has lent, not the broader consequences for international policy compatibility or even the domestic needs of a country.

The need for some alternate forum For international policy coordination is evident from the fact that national governments have created informal groups for this purpose. The Group of 10 was originally formed to deal with the problems of policy coordination and in particular with exchange-rate instability outside the auspices of the IMF. More recently, the implications for exchange rates of the departure of capital flows from the underlying fundamentals has been handled through informal groupings such as the G-7 or G-5 meetings of finance ministers of the most developed counties before the annual World Economic Summits. These groups have been responsible for the series of initiatives to introduce policy coordination discussed above, such as the Plaza and Louvre agreements. Although these are among the issues that mighr be discussed in a forum for resolution of policy conflicts, the current G-7 "Club of the Rich" approach has no official standing. nor does it take into consideration the interests of the developing world.

The recently established World Trade Organisation (WTO) provides an example of how a framework might be designed to deal with the question of policy conflicts with respect to monetary and financial policies raised by coordination_ In the WTO Governments have given up policy autonomy by restricting the use of certain trade policy instruments in the context of globally agreed commitments. This was deemed necessary for an orderly global trading system.

Beggar-my-neighbour policies are as frequent and disruptive in money and finance as in trade. A devaluation in the exchange rate is similar in impact to an increase in tariffs on imports and general subsidies for exports. Interest-rates changes can also create international conflict. A country which has borrowed in international markets at floating rates to finance industrial restructuring may find that any improvement on its goods trade is more than offset by the 'rise in interest charges due to a change in foreign monetary policy. It is clear that there will not always

be easy solutions to such conflicts, but in the absence of more fundmental reform of the international financial system, the impact of such policy conflicts should be discussed and resolved within a global framework in which countries could demonstrate the impact of other countries' domestic or international policies on their national policy goals. Such a framework, concentrating on monetary and financial issues, would bc cspccially important to developing countries whose economies are much more vulncrable to external shocks which produce abrupt changes in financial flows or intcmational market conditions.

Thc principles and standards of the WTO could also serve as the starting-point for the construction of a framework for thc rcsolution of conflict over monetary and financial issues. These principles include nondiscrimination as wcll as the recognition of the nced for safeguards and preferential treatment for dcvcloping countries. Market access would be an overriding goal. but, like trade policies in the WTO, macroeconomic policies might he actionable if they could be shown to harm another country's balance-of-payments position. Like tax and subsidy policies, which are covered, for cxample, by GATT Article XVI, macroeconomic policies can cause disorderly international markets or result in unfair competitive advantages, ultimately in this way threatening thc opcnncss of the world trading system. Thus it could bc argucd that such policies should be subject to disciplines analogous to those of the WTO. If the precedent of GATT/WTO were to be followcd, these disciplines might involvc the possibility of consultation, conciliation, investigation and countermeasures.

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