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INTERNATIONAL MONETARY SYSTEM

International Trade in a System of Floating Exchange Rates

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Since the introduction of the system of floating exchange rates policy-makers have been troubled by uncertainties regarding the effects of this system on international trade. Do exchange rate changes affect trade flows? Can governments manipulate exchange rates? Have countries been "injured" by exchange rate changes? What are the real costs of international monetary instability? Answers to these key questions are given in the following article.

Among policy-makers concerned with international trade, the key issue raised by the floating exchange rate system is the possibility that exchange rate developments may be distorting geographical patterns of trade. Since the theoreticians seem to be divided on the issue of the trade effects of exchange rate changes, the policy-maker is left groping in the dark. Are efforts at trade liberalization still meaningful in the present climate of high uncertainty about exchange rates? Is it not likely that the large exchange rate movements we have witnessed are causing actual trade patterns to diverge from patterns based on comparative advantage by a degree far exceeding the divergences created by trade restrictions still in force? And is it not possible that these exchange rate movements are the result of conscious manipulation by countries seeking an unfair advantage in the world market? Uncertainties of this kind threaten to undermine the steadiness of commercial policy, which is the main objective of international trade agreements and of the continuous diplomatic effort devoted to their interpretation in daily practice¹.

* GATT secretariat. — This article summarizes the principal arguments and conclusions of the authors' recent study "Trade Relations Under Flexible Exchange Rates" (September 1980), No. 8 in the series "GATT Studies in International Trade". It draws heavily on pages 1-11 of that study. The views expressed are those of the authors alone and do not necessarily reflect the views of the Contracting Parties to the General Agreement on Tariffs and Trade or of the GATT secretariat.

There is a large and growing body of theoretical and empirical work available for analyzing and evaluating these concerns, but first it is necessary to convert them into more precise, researchable questions. The four questions discussed below cover all of the main issues.

Exchange Rate Changes and Trade Flows

Do exchange rate changes affect trade flows? This general question covers three distinct relations: that between exchange rate changes and changes in trade barriers; between exchange rate fluctuations and the general level of international trade; and between an exchange rate change and the trade balance of a particular country (and thus also the geographical pattern of trade flows). Regarding the first relation, it is readily apparent that the economic value of trade

¹ A quotation taken from an article which appeared two years ago in this journal illustrates this uneasiness. After raising the possibility that under present trading conditions "... wide exchange rate instabilities will very quickly become a determinant of competition at the macro level and have a distorting effect", the author continues "In view of the eruptions and insincerities encountered in the international currency policy it must be asked what importance can be attached to tariff cuts of the size envisaged in the outcome of the Tokyo round and whether the frequent references to the non-tariff barriers to trade do not detract the attention too much from other more fundamental shortcomings of the international system." (Detlef Lorenz: On the Crisis of the "Liberalization Policy" in the Economics of Interdependence, in: INTERECONOMICS No. 7/8, 1978, p. 171.)

liberalization is not affected by increased variability of exchange rates. There are no points of legitimate comparison between the two. Whatever the ultimate effect of an exchange rate change, it is uniform across all exports and imports of a country, whereas trade barriers are typically selective, differentiating between industries and product groups. Exchange rate changes are the external reflection of macroeconomic policy, which aims to stabilize at the maximum sustainable *level* the activity of the economy as a whole. Trade policy is microeconomic policy dealing with particular obstacles to trade, thus affecting relative prices and the *pattern* of production, more fundamentally the pattern of investment, and ultimately the speed of shifts in the global location of industry.

A frequent complaint is that the additional cost which exchange rate uncertainty represents for traders, acts as a deterrent to the expansion of trade in general. Although this sounds plausible, with issues of this kind it is always necessary to specify the alternative to be compared with the situation we are analyzing. Flexible exchange rates as against what? Given the large and variable differences in national inflation rates, it is clear that an attempt to maintain fixed exchange rates in the 1970s would have had little chance of succeeding without extensive direct controls on trade as well as capital flows. These, however, would have impeded not only trade expansion but also general economic growth much more than did the additional uncertainty created by floating exchange rates. Compared, on the other hand, with a situation of general price level stability or even price level stability in only a few of the main trading countries, it is true that GNP growth, and thus trade expansion, would have been more rapid than they actually were in the 1970s when inflation became generalized. The fact that even in the 1970s trade continued to expand more rapidly than production suggests that there was no direct adverse effect of exchange rate variability on the level of international trade, which remained influenced mainly by the slower GNP growth.

The Theoretical Core

With these two issues out of the way, the theoretical core of the first question can be addressed. Does a change in the exchange rate of a particular currency affect that country's trade balance? As recently as ten or fifteen years ago, this would have been considered a decidedly odd question, as it was widely held that the exchange rate, determining the prices of exports and imports, was one of the most important forces shaping a country's current account and thus its balance of

payments. Since then, however, this view has encountered growing difficulties in explaining current events, and has been challenged on both a theoretical and empirical level.

A depreciation which does no more than offset domestic inflation maintains the same conditions of trade as would obtain under a stable price level with a stable exchange rate. We may say that, in this sense, it has no influence on trade. Thus the first step is to distinguish between changes in inflation-adjusted "real" exchange rates and changes in nominal exchange rates which merely offset relative changes in domestic price levels. Measurements made by the various methods available (all of which suffer from conceptual shortcomings and data limitations) indicate that such real exchange rate changes as have actually occurred were generally moderate, of short duration, and for the most part well within the margin of error which must be posited for exercises of this kind. In short, changes in nominal exchange rates have served in most instances to maintain, not alter, the pattern of international competitiveness.

The second step involves determining whether estimated changes in real exchange rates have had an impact on trade balances. Empirical evidence calculated for eight major countries for the 1970s indicates that the response of trade balances to such real exchange rate changes has been hardly significant, manifest if at all only over periods of such length that the relationship is highly tenuous, many other changes having intervened in the meantime. On the other hand, the relationship between trade balance changes and relative rates of GNP growth – the more rapidly growing country tending to develop a deficit and *vice versa* – is shown to hold much more closely. Researchers working with statistics for other countries and time periods, have reported similar empirical findings.

The evidence thus tends to confirm what economic theory has stressed since the 1950s, namely that an exchange rate change *alone*, without a supporting change in macroeconomic policy, cannot attain the intended change in the trade balance. Developments in the 1970s indicate that this proposition continues to hold in the flexible exchange rate system as well. In fact, it is likely that the transition to the flexible exchange rate system has weakened the impact of exchange rate changes on foreign trade, since the change in price competitiveness caused by an exchange rate movement is now considered to be less certain or durable.

Although the statistical evidence and recent theoretical developments cast serious doubt on the view that a currency devaluation or revaluation has an important impact on trade flows, it would be claiming too much to say that the question is settled. Moreover, while a large majority of economists accepts the view that in the long run exchange rates have no significant influence on the pattern of trade, many believe that exchange rate changes can play an auxiliary, facilitating rôle in the adjustment process, especially when money illusion is prevalent; and that, in turn, implies the view that an exchange rate change can have some temporary effect on the trade balance. This being the case, the question arises as to whether the current exchange rate system offers a country the opportunity to deliberately undervalue its exchange rate and so to obtain a temporary trade advantage over its trading partners.

Manipulation of Exchange Rates

The modern theory of exchange rates proceeds from the insight that in a world characterized by a high degree of capital mobility and internationally diversified holdings of financial assets, national currencies must be treated like any other financial asset. The behaviour of the foreign exchange market is seen to resemble that of a stock or securities exchange, rather than being an adjunct of the international goods market. Since financial assets are purchased with an eye to their expected future earnings and thus their resale value, a change in any one of the factors which determine the net yield can be expected to induce a change in the market clearing price. The market for currencies (and their market clearing price, the exchange rate) behaves in a perfectly analogous manner. As with other financial assets, any development that disturbs the market expectations of a currency's future value will have immediate repercussions either for the currency's current value, the nominal rate of return on assets denominated in it, or both.

Economic commentators like to speak about exchange rate changes reflecting "the judgement of the market". It is of some importance for the reader to have an idea of how that judgement is arrived at. The exchange market is an adjunct of the international capital market, and like all markets it averages the opinions of a large number of individuals strongly motivated to search for information from which relatively reliable expectations about the future may be formed. The capital market in particular is governed by little else than expectations, for it is its essential

function to bring, by the process of capitalizing expected earnings into current asset prices, well founded expectations to bear on the deployment of productive assets, that is, on production plans and policies.

Under the present system, expectations regarding future exchange rates are guided primarily by two considerations, both well grounded in theory and experience: the belief (1) that over the longer term exchange rates move so as to offset inflation differentials between countries, and (2) that if a country has a current account deficit or surplus exceeding what may be considered the stable or normal flow of long-term capital, its exchange rate will eventually change in a predictable direction. While neither relationship holds perfectly in practice, they hold well enough to serve as important guides in a world in which information about the future is scarce.

A change in the expected future exchange rate generally causes the current (spot) exchange rate to change as well, even though many of the developments which trigger changes in expectations – for example, a change in monetary policy – affect the rate of inflation and the current account balance only with a considerable time lag. The link between them is the interest rate parity relationship, which stipulates that when capital flows are relatively free, equilibrium in international financial markets requires that the difference between the forward and spot exchange rate between any two currencies be equal to the interest rate differential on assets denominated in those two currencies.

The fact that the spot exchange rate often changes immediately, whereas the disturbance which caused expectations to change affects the inflation differential only with a lag, means that the real exchange rate is affected in the interim. Labelled "exchange rate overshooting", these inherently temporary changes in real exchange rates are a by-product of the process whereby expected future changes in nominal exchange rates are capitalized into the current value of financial assets. The only efficient way of reducing such overshooting is to create a more stable economic environment in which expectations are disturbed less frequently. It should be added that qualified observers consider overshooting to have at times stimulated countries to adopt improved macroeconomic policies.²

² See, for example, O. Emminger: The Exchange Rate as an Instrument of Policy, in: Lloyd's Bank Review, July 1979, pp. 11-12; and Group of Thirty: Foreign Exchange Markets Under Floating Rates (New York: Consultative Group on International Economic and Monetary Affairs, Inc.), 1980, p. 5.

There is little possibility for countries to deliberately cause their exchange rates to overshoot in the direction of depreciation so as to stimulate output in their export and import-competing industries, since all ways by which a government may try to influence its exchange rate have important internal repercussions which appear more promptly than, and are likely to far exceed in magnitude, the economic benefits of the trade effects envisaged. There are only two or perhaps three ways by which an exchange rate of a currency may be influenced by government policy: direct controls on trade and capital flows, domestic monetary policy and, under certain circumstances, central bank intervention in the exchange market. The third can be considered an independent instrument only in periods of relative stability when the level of intervention is moderate enough for its domestic monetary effects to be offset by other means. When the central banks intervene on a large scale, however, their actions become an element of domestic monetary policy, since such intervention expands or contracts the domestic money supply, depending on whether they are buying or selling foreign exchange.

As to direct controls, those on trade cannot be considered an instrument of aggressive exchange rate manipulation. They are typically used by countries in current account deficit, in the hope that they may obviate the need for a stronger anti-inflationary monetary policy. The one thing an import restriction policy is decidedly incapable of achieving is an increase in the restricting country's share in world exports; indeed, it must reduce it. As for official control over capital movements, at the degree of interdependence the world economy has achieved by now, there does not seem to be any politically feasible method of implementing such controls on the scale that would be needed. Capital movements can be fully controlled only within a comprehensive scheme of direct quantitative controls over all international transactions, merchandise trade in particular. For the time being, at least, no legislature of any advanced industrial country appears even remotely willing to contemplate the delegation to the executive of discretionary economic power of this extent.

A change in domestic monetary policy has an immediate influence on the exchange rate, but this is not "manipulation" in the sense of making the exchange rate behave in an artificial way, since the rate is responding to anticipated changes in underlying economic conditions. Moreover, as was mentioned above, a government would be ill-advised to try to use this influence to undervalue the exchange rate in the

hope of an export gain. Only repeated shifts to more expansionary monetary policy could depress the exchange rate for more than a short period. The damage to the domestic economy by the ensuing inflation would far exceed any possible external gain.

In summary, in a situation in which capital moves relatively freely between countries, the market process by which exchange rates are determined does not allow a single country to maintain a clearly inappropriate exchange rate long enough to produce significant trade results.³

"Injuries" by Exchange Rate Changes

Have countries been "injured" by exchange rate changes? It might seem that once aggressive manipulation of the exchange rate of a particular currency has been shown to be impossible, the third question would be superfluous. But the fear of a country being injured by excessive exchange rate changes has been immanent in the history of international commercial relations, and has been growing again in the last two decades. It thus deserves closer analysis which, moreover, flows easily from that already presented.

Balance-of-payments adjustment necessarily implies structural changes within the adjusting economies. Firms producing home-market goods in the deficit country, and tradeable goods in the surplus country will experience a decline, relative or absolute, in their scale of operations. Although it is not surprising that this process stimulates complaints, the losses suffered through the retrenchment by firms whose activities became overextended in the process which created the payments imbalance cannot be considered an injury from the viewpoint of the national economy as a whole, for the simple reason that the retrenchment is the only way by which the unavoidable correction can be accomplished. The theoretically correct definition of an adjustment burden, or injury, was given more than 25 years ago by Milton Friedman.⁴ It would occur through over-adjustment, involving unnecessary shifts of resources back and forth between sectors, a shrinkage of an industry followed by an expansion when the trade situation normalized again.

³ The exchange rate cannot be considered a national policy instrument, not merely because it is ultimately determined by private transactions in the exchange market, but primarily for a deeper, purely logical reason: expressing the exchange value of two national currencies, it cannot be determined by the policy of one government alone.

⁴ "The Case for Flexible Exchange Rates", in his "Essays in Positive Economics" (University of Chicago Press), 1953, p. 183.

The contrast between tight monetary policies in the surplus countries and relative monetary ease in the deficit ones suffices to explain the large variations in exchange rates in the 1970s. Given that the monetary policy of the surplus countries, concerned primarily with domestic price stability, continued to be restrictive, while that of the deficit countries, concerned primarily with employment, was permissive to the extent of being inflationary, the whole adjustment pressure converged on the exchange rates. It is not surprising that at times exchange rates attained what were clearly unrealistic levels from the purchasing-power-parity view, nor that they did not bring about a prompt adjustment. When the really effective policy instruments remain frozen on a contradictory course, the last free element, the exchange rate, will be pushed to large amplitudes but show little effect.

These events led to a revival of the concern, widely debated under the fixed rate system, about the need for symmetry in adjustment. This argument involved two distinct misunderstandings. It was already shown that the process of balance-of-payments adjustment implies, indeed is accomplished by, certain structural changes in the adjusting economies. For this reason it is impossible for any country to "shift the real burden of adjustment" onto its trading partners. The simplest way of showing this is to say that in a two-country world, once the deficit or the surplus country adjusts, the other has adjusted.

Insofar as the symmetry argument demanded a "better coordination of macroeconomic policies in the deficit and surplus countries", it reflected the belief, prevalent in the 1960s and early 1970s, in the possibility of a permanent trade-off between inflation and unemployment. On the basis of this (now thoroughly discredited) belief it was argued that the surplus countries should "assume a part of the burden of adjustment" by following a more expansionary monetary policy at home, thereby reducing the extent of monetary tightening required in the deficit countries. It should be obvious that this practice, if consistently followed, could not but impart an inflationary bias to the international monetary system.

Costs of International Monetary Instability

What are the real costs of international monetary instability? The largely negative answers to the first three questions should not be allowed to generate complacency. There are ample reasons for believing that the absence of a stable international currency – that is, of a national currency of stable purchasing

power capable of playing the same rôle as the pound sterling did before 1931, and the US dollar during the quarter-century following World War II – has imposed important costs on the world economy.

Once a currency's purchasing power begins to erode, it becomes increasingly inefficient at carrying out its crucial functions in the domestic economy (standard of value, medium of exchange, standard of deferred payments, and store of value), with the result that the efficiency of all economic activity begins to decline. Exactly the same functions must be carried out for the world market economy, and when the established (*de facto*) international currency begins to lose its purchasing power, the same costs and distortions which inflation creates in the domestic economy appear at the world market level. Indeed, in this case there is an additional cost, arising from the fact that the international currency no longer provides a stable reference point against which other countries can gauge their own domestic monetary policies.

Pursuing this point in more detail, we know that to function efficiently, an economy needs a precise measure and a prompt indicator of relative scarcities. In a market economy, this is the function of the price system. And it is apparent that in an inflationary process, with most prices rising at different rates, the domestic relative prices prevailing at any moment convey little or no reliable information about relative scarcities.⁵ Similarly, inflation of the international currency deprives the world market of reliable relative price information. This is particularly serious because the need for information about relative scarcities or incipient surpluses occurring in one part of the world market to be promptly communicated to all other parts is clearly of utmost importance. It is one of the functions of the international currency to carry reliable information about changes in relative prices to all market participants. It is clear that to discharge this function satisfactorily the international currency must be the money of a large open economy in which price stability prevails. Thus even in countries in which high and variable rates of inflation, and possibly other factors, are distorting domestic relative prices, firms can base their investment plans on the world market price information conveyed by the international currency – an information service which went largely unnoticed in the period when the world market price level was reasonably stable.

⁵ See, for example, A. Leijonhufvud: *Costs and Consequences of Inflation*, in: G. C. Harcourt (ed.): *The Microeconomic Foundations of Macroeconomics* (London: Macmillan), 1977.

Because inflation rates have been generally higher in developing than in developed countries, it is reasonable to surmise that economic growth in the developing areas is particularly hampered by the reduced accuracy of relative price information from the world market. It is true that some developing countries continued to grow rapidly in the 1970s, but as the relative price information available to them became less reliable, their investment plans had increasingly to rely on parallels with the investment patterns established by the more developed countries (such as Japan) at earlier stages of their development. The danger is that if the global pattern of industrial growth has changed, or is changing (and would be changing even more rapidly if the rate of global economic growth were higher), some of the current investments based on other countries' experience in the 1950s and 1960s will turn out to have been misinvestments – wasted capital – when the world economy returns to reasonable price stability and more normal growth. Considering developments in energy markets during the 1970s, as well as diverging labour force growth rates and continuing technological innovation, it would in fact be surprising if the optimum pattern of industrial growth had not changed over the past decade or two.

The absence of a stable international currency also means that there is no single currency capable of fulfilling, for international transactions, the other functions which national currencies fulfill for domestic transactions. In such circumstances, economic agents are forced into trade-offs. For example, one currency may be the best store of value, while another is best as far as the medium of exchange function is concerned. The resulting problems include a tendency for relatively minor developments to cause sizeable shifts in the currency composition of working balances and asset portfolios, and an increase in the complexity of monetary management in those countries whose currencies tend to become "internationalized" by the search for alternative currencies to fulfill one or more of the functions of an international currency.

The latter difficulty is only one form of the cost which arises from the absence of a "fixed point" against which other countries can judge the effectiveness of their monetary policies. With stable world market prices (measured in the key currency), each country needed only to choose between adjusting its monetary policy so as to maintain a fixed exchange rate vis-à-vis the key currency, or, following a period of domestic inflation, to devalue its exchange rate against the key currency by an appropriate amount. The result was that countries which attached a high priority to price

stability had a simple target for their monetary policy, namely to maintain parity with the key currency; meanwhile all other countries could maintain their overall price competitiveness against their trading partners by simply maintaining constant their respective inflation-adjusted (real) exchange rates against the key currency. Once the key currency begins to exhibit high and variable inflation rates – as did the dollar beginning in the late 1960s – the "fixed point" disappears. As Harry Johnson noted, each country then finds that its "... price-trend and balance-of-payments position represents an amalgam of its 'real' position relative to other countries and the 'monetary' position of the world economy as a whole. In these circumstances domestic policy signals become confused and confusing."⁶

Need for a Stable International Currency

It is not clear how long international monetary instability will continue to burden the world economy with these costs. At this point, the most realistic hope is that the currencies of the large trading countries will acquire the requisite purchasing power stability. Updated to refer to both the United States and the European Community, Henry Simons' words are as valid today as they were more than thirty years ago:

"The major need for international monetary stabilization will be simply the internal stabilization of the (US)dollar itself. . . . If we can securely and closely stabilize our own price level and prevent recurrent aberrations of inflation and deflation, we can thereby eliminate the major obstacle to reasonable stability of foreign-exchanges rates. . . . We shall need a stable dollar for our domestic economy as much as other nations need a stable international monetary unit. Serving well our national interest in this matter, we may also serve well the cause of world order and reconstruction, and conversely."⁷

Given all the economies and advantages of a single currency for the conduct of international transactions, it can safely be predicted that, whatever the final form the international monetary system assumes, the financial processes underlying world trade will remain based on a major national money. Unless that money maintains its purchasing power, no international monetary system will be able to function satisfactorily.

⁶ "General Principles for World Monetary Reform", in: H. Corbet and R. Jackson (eds.): *In Search of a New World Economic Order* (New York and Toronto: John Wiley), 1974, p. 155.

⁷ "Money, Tariffs, and the Peace", in his "Economic Policy for a Free Society" (Chicago: University of Chicago Press), 1948, p. 262.