Exchange-Rate Flexibility

In a discussion earlier this year, a speaker stated, quite correctly, that in recent years officials in charge of international monetary affairs have been traveling toward the crawling peg. A transposition of the two participles would make this statement even more correct: the officials have been crawling toward the traveling peg. The slow crawl of the officials' thoughts has forced several pegs to do some drastic, in some respects excessive, traveling.

That the officials' acceptance of novel notions in this field has been in the nature of a slow crawl is probably explained as an understandable, and not always undesirable, cultural lag. They should not too readily accept all the results of academic brainstorms. We academics have no responsibility for national policy and can sometimes be quite irresponsible. This is good for progress, but governments had better be cautious, and hence slow, in following the theorists' lead. This rule does not excuse thoughtless resistance to change, but only deliberate speed associated with a thorough examination of the arguments. At any rate, most officials have at last arrived at the position that greater flexibility is needed in the exchange-rate system. Let me produce only one piece of evidence in the person of Pierre-Paul Schweitzer, General Manager of the International Monetary Fund, who in one of his speeches before ECOSOC of the United Nations (17 November 1972) made the following declaration:

> « But it is evident that for the future we need to establish a more flexible exchange-rate mechanism and to ensure that all countries, including the reserve centers, will be able to avail themselves of that mechanism ».

Meanings of Flexibility

We must not exaggerate, however, the progress implied in statements of this sort. The meaning of flexible is not fixed, and the meaning of fixed is very flexible. It would be possible for those who

cling to the old system (and hate to change it in more than a few meaningless details) to pay lip service to "greater flexibility" and still come up with an excessively rigid system. On the other hand, "fixed" does not say for how long the fixed thing stays unchanged; for example, the price of gold in the London market is fixed twice a day and no one presumes that the fixing tomorrow will be anywhere near that of today. Thus, a fixed price or fixed rate may be highly flexible depending on the frequency and degree of its being re-fixed. Moreover, there is, with regard to the foreign exchanges, the difference between the rate and the par value. (There may be *flexible rates* within a wide band around a rigidly *fixed parity;* or *not very flexible rates* within a narrow band around a rather *flexible parity;* or *flexible rates* varying within a wide band around a *flexible parity;* let alone systems without any par values and even without stated central rates). It would be possible to construct a system with "fixed par values" that has all the flexibility that is needed in today's world.

It ought to be clear by now that nobody can know precisely what is meant by a reform that provides "greater flexibility". I shall a little later present a tabulation of some of the options that can provide various degrees of flexibility. I shall not eschew the word "fixed" but, mindful of the fact that exchange rates or parities may be fixed forever, for many years, for a few years, for a few months, for a few weeks, or only for days, I shall have to be quite specific about the time dimension.

According to the use made of par values, three major types of flexibility of the exchange-rate system can be distinguished: (A) rigidly fixed parities, with wide bands of permissible variations of exchange rates around the parities; (B) adjustable fixed parities (with the frequency of adjustments ranging from "when needed" to "every few months", and the magnitude of the adjustments ranging from "whatever is required" to "a fraction of one percent"); and (C) no fixed parities, with either managed or unmanaged floating of the currency. My tabulation will exhibit several variants. However, before proceeding to this task, we ought to ask why a flexible exchange-rate system is now regarded as desirable or inevitable, and how it was possible for the world to live for many years successfully and happily with a system of rigid parities and exchange rates that remained almost invariant for years.

The Role of Prices in Economic Adjustment

We might be inclined to approach these questions dogmatically by saying that prices have an adjustment function and that any price that does not reflect changes in market conditions but stays invariant in the face of changes in supply and demand is dysfunctional. Exchange rates are the prices of foreign currencies in terms of domestic currency (or the prices of domestic currency in terms of foreign currencies) and to fulfill their function they must be flexible.

This argument is not convincing, at least not to everybody. Some people do not even accept the first proposition with regard to fixed versus flexible prices of commodities, and want their government to fix rigid ceiling prices for the things they purchase and to fix floor prices for the things they sell. Tenants in large cities have secured rent control, with rents kept from rising above certain maxima and people do not seem to mind the consequent maladjustment of the housing market with its unsatisfied excess demand for housing. Producers of grains have secured farm-price supports, with grain prices kept from falling below certain minima, and, again, people do not seem to mind the consequent maladjustments with chronic excess supplies withheld from the market. However, that many people plead for governmental price-fixing and bureaucratic controls does not disprove the generalization that inflexibility of prices is apt to lead to maladjustments in the respective markets in the form of excess supply or excess demand.

This generalization holds also for the markets in which currencies are exchanged. If exchange rates are not flexibly adjusted, some currencies will be offered in excess supply and other currencies will be sought for in excess demand. The excess supply of a currency in the foreign-exchange markets is commonly called a deficit in the "over-all balance of payments" of the country in question. Obversely, an excess demand for a currency is called a surplus in the respective country's balance of payments. However, there used to be an alternative adjustment mechanism at work that managed to restore balance even in the absence of flexible exchange rates, a mechanism which economists knew and described almost 250 years ago. That such an alternative adjustment mechanism has existed in the past and could conceivably exist again in the future makes it understandable that some people cannot be convinced of the need for flexible exchange rates.

Aggregate-Demand Adjustment

The alternative adjustment mechanism has traditionally been described in terms of changes in the quantity of money and consequent changes in relative price levels; it is more fashionably described in terms of changes in the levels of aggregate spending, relative incomes and effective demand. (For a "monetarist" the two descriptions are not very different). The simplest description employed the model of the gold-coin standard. A country with a payments surplus would experience an inflow of gold coins from abroad, a country in deficit would suffer an outflow of gold coins. The increase in the quantity of money in the surplus country would pull up prices and attract imports of goods and at the same time make exports more difficult. The reduction in the quantity of money in the deficit country would depress prices and thereby make exporting easier and importing harder. In consequence of these inflations and deflations of money and prices, the surpluses and deficits would disappear.

This model of an adjustment mechanism was given the name "specie-flow mechanism", specie being the old word for gold coin. If instead of gold coins, gold bullion (bars of gold) or any other reserve asset were to flow from the deficit to the surplus country, the process would be almost the same. The quantity of money would be reduced in the deficit country as the buyers of foreign goods (or securities), paying for their purchases, surrendered domestic money for the foreign exchange needed and the monetary authorities, meeting the demand for foreign exchange, lost thereby some of their foreign reserves (gold bullion, currency reserves or any other reserve asset). In the surplus country the quantity of money would be increased as the exporters of goods (or securities) received payment from abroad and the monetary authorities issued domestic currency as they acquired incremental foreign reserves. The effects on prices in both countries and on their exports and imports would be the same as under the gold-coin system no matter what was used as international reserve asset — pieces of paper, deposit balances, or marbles — as long as the quantity of domestic money was governed chiefly by the flow of reserves.

The description of the adjustment mechanism can be easily reformulated to become acceptable to those who dislike talking about the quantity of money and levels of prices. One has merely to substitute "rate of aggregate spending" for quantity of money, and

"effective demand" or "income and employment" for relative prices. A few qualifications may be needed — for example, regarding the existence of underemployment and excess capacity — but otherwise the translation from monetarist language to that of followers of the income approach can be left to the reader. The emphasis will no longer be on relative prices but rather on relative incomes, and the name of the process will be "aggregate-demand adjustment".

To the extent that fiscal and monetary policies are employed to influence the rates of employment and growth, one usually speaks of "demand management". And to the extent that national objectives regarding the domestic economy are given priority over the objective of balance in international payments, the actual demand management may prevent rather than promote the adjustment process. This suspension of the adjustment mechanism by domestic credit and budget policies is not, as some critics seem to believe, associated with a preference for the income approach over the monetarist approach, nor with the substitution of fiduciary reserves (paper and deposit balances) for pure gold reserves. Even with pure gold reserves it is possible to create additional domestic credit and money while gold is flowing out, or to cancel domestic credit and money while gold is flowing into the country's reserves. This is called a policy of "offsetting" the effects of the flow of international reserves upon the domestic money stock. To pursue this policy has become the rule rather than the exception in most industrial and financially developed countries.

One may deplore this development but one cannot reasonably insist on returning to the "golden age" in which the adjustment mechanism through expansion and contraction of money stock and aggregate demand was operating. Why the return to the golden age has become practically impossible must be understood before the economists' prescription of flexible exchange rates can be fully comprehended.

The World That Was But Is No Longer

In a system of rigid exchange rates international balance can be restored only through aggregate-demand adjustment. Surplus countries have to accept an expansion of effective demand even

when it involves price inflation, and deficit countries have to accept contraction (or at least insufficiency) of effective demand even when it involves excessive unemployment. There was a time when things worked out differently, at least in the country in which credit and spending had to be restricted. The situation was different in at least three respects:

For one thing, prices of goods and wages of labour were flexible, not only in an upward direction, but also downward. When prices fall, a given volume of demand (a given rate of aggregate spending) can buy more goods, and a reduced level of demand (reduced rate of spending) might buy almost the same amount of goods that had previously been bought at higher prices. However, downward flexibility of prices by substantial degrees requires downward flexibility of wage rates. Believe it or not, there was a time when wage rates could decline (and usually when money wages fell real wages actually increased, because prices of consumer goods declined by more than money wages). As a result, a contraction of monetary demand led to lower prices, to smaller imports and larger exports.

Whether the downward flexibility of wage rates was adequate to avoid large unemployment we do not know. More likely, a fall in demand for industrial products led to some reductions in industrial employment. But in the 19th century and at the beginning of the 20th century, manufacturing was only a relatively small sector in the economy. When workers were laid off in industry, they "went home" to their families on the farms; economic history does not record many periods of misery through mass unemployment. Whereas a fall in aggregate demand in an industrial society means mass unemployment, in a predominantly agricultural society it means a return flow of labor from the cities to the farms, and thus far less hardship.

In actual fact — and this is the third point to make — we do not know how much unemployment was associated with price and demand deflations in earlier times. Unemployment insurance and unemployment statistics were nonexistent. Only in the great depression of the 1930s did we begin to count the unemployed. Nowadays we have monthly bulletins on the number of jobless persons in search of jobs and on the rate of unemployment as a percent of the labor force. We regard it as unsatisfactory if the rate exceeds 4½ percent, and as intolerable if it exceeds 6 percent,

for any length of time. We insist that the government act to reduce unemployment, and the actions regularly include fiscal and monetary expansion, regardless of the state of the balance of payments. To combat a deficit in the balance of payments by demand adjustment at a time of serious unemployment is politically impracticable. No government will nowadays consider such a policy, and advisers who recommend curing a payments deficit by demand deflation when unemployment is already a serious problem fail to understand some of the unalterable political facts of life.

Temporary Imbalances

It should be clear, then, why the "orthodox" adjustment mechanism no longer exists. We still should ask whether the demand deflation required to correct a payments imbalance is really as bad as we have made it sound. Could it not be that the additional unemployment that goes with a demand adjustment big enough to remove a payments deficit is small enough to make it acceptable? Could not in certain situations the deficits be financed by inflows of short-term capital funds from abroad, attracted by increased rates of interest without much effect on domestic investment and on the demand for labor? How the monetary authorities will answer these questions and what they will decide to do depends largely on their views about the causes of the imbalance and about its probable persistence.

A deficit may be temporary, either because the factors responsible for it may "go away" or because some countervailing forces may emerge. Here are some circumstances favoring a quick turnaround. (1) Excessive monetary ease is one of the most frequent causes of deficit; however, if most of the country's trading partners (with only a slight lag) embark on similar or even faster expansions of credit and spending, the lead in inflation may turn into a lag, and the deficit may give place to a surplus. (2) Technological advance may give a certain country a competitive advantage as an exporter and impose deficits on the importing countries; the surpluses of the former and the deficits of the latter may be short-lived if the additional exports give rise to a strong expansion of credit, income, and spending in the surplus country or if the importing countries catch up with the technological progress and quickly develop

import-substitutes or broaden their own export base. (3) A temporary payments deficit may be caused by a wave of investments in, and loans to, foreign countries; if this outflow of capital funds is strictly temporary, the deficit may disappear.

In these and surely many other cases one may hold that adjustment measures in the form of demand management would be unnecessary. If they were taken as a matter of oldfashioned prudence, they would probably not cause any serious or lasting damage. Moreover, the interest-rate policies prescribed by the old rules of the "gold-standard game" would invite short-term capital from surplus countries to deficit countries and the inflow of funds from abroad would finance the deficit and stop the loss of reserves before the higher interest rates began to bite, that is, to impair investment, income, and employment. Adherents of "sound money" would therefore be inclined to advise taking monetary measures -- just in case the deficit is not so shortlived as it is hoped to be, Adherents of "full employment", on the other hand, would want to avoid any actions that could increase unemployment even slightly and for a short while, and they get strong support from the advocates of rigid low interest rates. (There are in all countries fanatic opponents of any increases of the rates charged to borrowers in agriculture, industry, and housing). In the play of practical politics, the anti-deflationists and low-interest advocates are likely to win, usually by gaining acceptance for the view that the deficit is only temporary and will go away soon.

In this ideological climate, the orthodox adjustment mechanism has little chance of being allowed to work. The times in which the balance of payments or the level of reserves was the first concern of monetary authorities are past; low interest rates, relatively stable prices, high levels of employment, and fast rates of economic growth have become national goals of higher priority, incompatible with monetary demand-management policies designed to maintain or restore international balance.

Resorting to Selective Controls

With aggregate-demand adjustment practically ruled out and exchange-rate adjustment regarded as a measure of last resort, yet with a manifest maladjustment of the payments balance calling for

action, most countries are prone to adopt selective controls. Such controls are designed to restrict or discourage certain international transactions, which supposedly give rise to out-payments by deficit countries and in-payments in surplus countries. The selection of control measures corresponds to the strength of vested interests, political ideologies, and socio-economic value judgments. On the first ground, imports of certain products are restricted or discouraged in order to help influential groups in the economy who desire protection against foreign competition. On the two other grounds, capital transactions are restricted, largely because of deepseated convictions that movements of capital do not serve the national interest.

The inefficiency, ineffectiveness, and high social cost of governmental controls of trade and capital movements are notorious. Despite the present madness in virtually all countries, despite the epidemic deliberalization of trade, payments, and capital movements, I take it as evident beyond question that in the long run discretionary controls are not an acceptable substitute for real adjustment — either effective-demand adjustment or exchange-rate adjustment.

How the System Worked from 1949 to 1973

Even if a country with an imbalance in its foreign payments uses some, but not sufficiently strong, measures to promote adjustment through effective-demand management, and even if the country tries to cope with its imbalance by imposing restrictions and controls of all sorts, the attempts to restore balance with unchanged foreign-exchange rates are usually unsuccessful in the long run. Several examples from the history from 1945 to 1973 illustrate the validity of this statement.

France, always solemnly declaring her determination to maintain the exchange rate of the franc at the "fixed" level, was compelled by circumstances to change the rate seven times during those years: down by 44 percent[1] in 1948, down by 38.7 percent in 1949, down by 16.5 percent in 1957, down by 14.6 percent in 1958,

1 All percentage changes of exchange rates are expressed in terms of U.S. dollars; only the changes of the U.S. dollar are expressed in terms of official gold or special drawing rights of the International Monetary Fund.

down by 11.1 percent in 1969, up by 8.6 percent in 1971, and up again by 10.9 percent in 1973.

Germany, repeatedly vowing her resolve to resist all pressures of the market as well as the recommendations of her economic experts, found ultimately that such resistance was in vain, and (after one devaluation by 20.6 percent in 1948) upvalued the German mark four times: by 5 percent in 1961, by 7.8 percent in 1969, by 13.6 percent in 1971, and by 10.3 percent and another 5.5 percent in 1973.

Britain devalued the pound sterling by 30.2 percent in 1949 and by 14.3 percent in 1967, then upvalued it by 8.6 percent in 1971, but began letting it float down by 5.5 percent in 1972.

Japan devalued the Yen in 1949 but then vowed never to change its exchange rate again; in 1971, under pressure from market forces and with strong foreign coaxing, she upvalued the Yen by 16.9 percent and in 1973 she allowed it to float upward by another 16.6 percent.

The United States had established the parities of the dollar with other currencies indirectly by fixing a value of officially held gold and had declared through four successive presidents that the gold value would not be changed. Yet, after definitively terminating any convertibility of the dollar into gold, the United States raised the book value of its gold by 8.6 percent in 1971 and by another 11.1 percent in 1973. Since most other developed countries in 1973 began to let their currencies float against the dollar, the exchange rate of the dollar in terms of these currencies is now flexible.

These examples were of the financially most important countries. For all members of the International Monetary Fund a count of changes of exchange rates in the first 25 years of the "Bretton Woods System" exceeds 250. Despite this large number, there is general agreement that exchange rates in that period were not flexible enough and that several of the adjustments were made only after undue delays. In a good many instances, adjustment was made only when the existence of a fundamental disequilibrium had been so obvious to holders of money that massive movements of liquid funds made the maintenance of the established parities quite impossible.

It has now become clear that greater flexibility is inevitable. Which type of flexibility would serve us best? Which type would safeguard the system against unnecessary shocks and against

conditions that induce governments to adopt measures restricting the international flow of goods, services, and capital funds? Let us survey the options.

Types of Exchange-Rate Flexibility

A. *Rigidly fixed parities*

with wider bands of permissible variations of exchange rates around the parities (at least 2½ per cent up or down, i.e., 5 per cent together), and with official interventions (a) within the band as well as at the limits, or (b) only at the limits.

B. *Adjustable fixed parities*

a) adjusted without "undue delay" when "fundamental disequilibrium" is recognized (by sufficiently large percentages);

b) adjusted "promptly" when "incipient disequilibrium" is recognized (by 5 per cent or more if deemed prudent); or

c) adjusted several times a year either for gradual economic adjustment or for regular practice to avoid atrophy ("gliding parities" or "crawling peg" by 1 per cent or less; not more than 3 per cent within 12 months).

In all three types the decision may be made (i) by use of a fixed formula or an accepted rule of thumb, (ii) by international consent, or (iii) by national discretion.

C. *No fixed parities*

with exchange rates determined in the market

a) with managed floating, i.e., with intervention (official sales and purchases) and (i) administrative controls ("dirty floating") to split the market or restrict selected kinds of transactions, or (ii) no administrative controls, or

b) with free floating, i.e., without interventions and without controls.

Flexibility within a Fixed Band

Let us first evaluate system A, which provides flexibility of exchange rates only within a band around a rigidly fixed parity. This system is considered flexible because the band is at least two-and-a-half times wider than that permitted by the Bretton Woods Articles of Agreement written in 1944.

There was a time when economists thought that this type of flexibility would be the most they could ever expect the responsible officials to accept. Even this acceptance was hard to get, although the wider band was shown to give central bankers a chance for which they had long been yearning: a chance effectively to pursue monetary policy.

Central bankers have always wanted to be able to influence the volume of credit and the rate of discount. With exchange rates that must be maintained within one per cent of a fixed par value, a central banker trying to maintain, for the sake of domestic objectives, an interest rate a little higher or a little lower than the rates prevailing abroad will soon be frustrated. A higher rate of interest will attract liquid funds from abroad, and the resulting inflow will provide the increase in domestic liquidity which the central banker is trying to avoid. A lower rate of interest will cause funds to go abroad, and the greater ease on the domestic money market which the central banker wants to achieve by his policy will not be achieved. However, the freedom to ease or tighten the credit market for domestic reasons can be restored if exchange rates are allowed to vary within a wider band. Funds will not move with an inducement of an interest differential of two or three per cent if exchange rates may vary by an even larger percentage. With the exchange risk larger than the interest-rate differentials, the latter can be maintained for several months and may attain the purposes intended by the monetary authorities.

This restoration of the freedom to influence the domestic credit market is, of course, not the chief advantage of the wider band. More important is the reduction of seasonal and cyclical fluctuations of international reserves. There are several reasons for preferring that temporary surpluses or deficits in foreign payments are reflected in small temporary variations in the foreign-exchange rates rather than in temporary accumulations or decumulations of exchange

reserves with associated expansions and contractions of the domestic money supply. (With a well-functioning forward exchange market, exporters and importers can cover all their foreign-exchange commitments without risk and without cost. There is no need for the cost of forward transactions to be higher than that of spot transactions. If the cost is higher, this is so only because of existing defects in the organization and management of the banks' foreign-exchange business, defects which can and should be remedied.)

A third advantage of a wider band is that it fosters a habit of private stabilizing speculation in foreign currencies. The function of stabilizing "interventions" is thereby shifted from the monetary authorities to private parties — something which bureaucrats may deplore but which advocates of the market economy would welcome. Private parties (exporters, importers, traders and exchange dealers) would find it profitable to buy foreign currencies when their prices approach the lower limit of the band and to sell when their prices approach the upper edge. Official interventions, confined to operations at the limit prices, would thereby become an exception rather than a rule, though, of course, everybody should be assured and convinced that these interventions would in fact occur to any extent that may be required by excess supply or excess demand in the exchange market. In a climate of day-to-day stabilizing speculation by private parties, destabilizing speculation — to which I ascribe an important function in the system — would occur only if there is a deep distrust in the constant readiness of the authorities to promote the adjustment mechanism with alertness and alacrity.

A fourth advantage of the wider band lies in the fact — which should really be discussed in the context of adjustable parities — that it may accommodate small adjustments of parities without affecting the actual foreign-exchange rates prevailing in the market at the time. If a change in the parity is no more than one per cent, both the new parity (that is, the new center of the band) and the actual exchange rate would still be well within the band around the former parity. For example, with a band of 4½ per cent, or 2¼ per cent up or down, a change of parity by one per cent would still be 1¼ per cent from the edge of the old band; if the actual exchange rate in the market was nearer the edge than the center of the band, this rate could remain unaffected by the parity change: it would merely be closer to the new center and further from the new limit. (This fact has often been overlooked in discussions of

the "shock effects" of parity adjustments). The width of the band ought to be a multiple of the largest change of parity that is to be accommodated without immediate impact on the actual exchange rate.

This brings us to the discussion of adjustable fixed parities and the various types to be distinguished in this category.

Flexibility by Parity Adjustments When Necessary

Flexibility within a wider band around rigidly fixed parities can cope with seasonal and cyclical fluctuations in supply and demand conditions in the foreign-exchange market and also with a beginning phase of a longer-term change in one direction. However, a band not wider than 4½, 5, or 6 per cent of parity is not enough to cope with changes that continue in the same direction for two, three or more years. In such a case the exchange rate may well rise or fall to the limit of the band and stay there — as long as the stabilizing interventions by the monetary authorities continue. An exchange rate at the edge of a rigidly fixed band is not much different from a rigidly fixed rate: it has no flexibility in the one direction in which market forces are pushing it, and the ability or willingness of the monetary authorities to keep it from breaking out of the band will become increasingly doubtful when, after an extended period of defending the rate, foreign reserves are, in the deficit case, approaching depletion, or have, in the surplus case, reached excessive levels.

Forces that cause existing parities to become misaligned and the reserves of the countries concerned to increase or decrease persistently could of course be checked by countervailing monetary policies. But, as we have noted, the pursuit of such policies is politically impracticable, because the deflationary effects upon employment or inflationary effects upon price levels are felt to be intolerable. Indeed, national differences in attitudes regarding demand-management may be seen as the most important of the factors unbalancing the flows of international payments. This view is often expressed by stating that differences in the annual rates of price increase are at the bottom of most imbalances of payments. This, however, is an exaggeration. Different rates of monetary expansion do not always show up in different rates of price increase, nor do

the rates of monetary expansion as such produce or prolong imbalances in foreign payments; what matters in this connection are the rates of monetary expansion relative to a variety of other developments in the countries concerned. To assert that there would always be a "right" monetary policy to restore or maintain balance in foreign payments is of little use, because this policy might be very "wrong" for other objectives; it may, for example, result in large unemployment or in heavy price inflation.

Thus, if we enumerate several possible factors that may cause given par values of currencies to become misaligned, it should be understood that these are causal factors only in the sense that they cause imbalances at the given parities if monetary policy is not specifically designed to preserve foreign balance in disregard of conflicting domestic goals. Among the many possibly unbalancing factors are differences in the rates of increase in real GNP, in productivity of labor, in personal income; also differences in price and income elasticities of demand (especially for imported goods); changes in the structure of comparative advantage in the international division of labor; various institutional differences, particularly in the organization of the labor markets and in industrial relations; and last but not least, changes in the international flow of long-term capital due to the emergence of attractive investment opportunities in some countries or of ample sources of supply of investible funds in other countries. Any one of these differences or changes can be shown to be a potential "cause" of misalignment of parities, that is, of chronic imbalances of payments if parities are not realigned. Exchange-rate flexibility within a wider band may be adequate to cope with such imbalances for a year or two but not for longer periods.

To wait with an adjustment of the parity until a "fundamental disequilibrium" has been recognized by the monetary authorities and governments concerned is the counsel of people who have not learned from experience. They may honestly believe that the system would have more flexibility than there was from 1950-1971, if members are warned to avoid "undue delays", but they deceive themselves. The delays in the past were "undue" only in hindsight; they were the result of supposed prudence and caution when governments were thinking that the time for adjustment of the parity had not come. Governments resisting revaluation or devaluation were hopeful that balance could be restored at un-

changed exchange rates — that is, that the disequilibrium was not fundamental —; they were not admitting to others or even to themselves that they were delaying adjustment unduly. Moreover, private traders and money managers have become accustomed to form their own opinions on whether balance would be restored without adjustment of parities; if they have ever believed the judgments of governments, they certainly do not believe them now. Thus, a system of parity adjustment "when necessary" becomes in fact a system of parity adjustment by crises of confidence, because long before the governments begin to question the supposedly temporary character of the imbalance, private traders and corporate money managers move in to cover their exchange risks and thereby force the monetary authorities to give up their heroic but hopeless defense of the fixed parity.

Flexibility by Parity Adjustments When Warranted

Parity adjustments "when necessary" are, we have seen, invitations to hedgers and speculators to anticipate the official recognition of a fundamenal disequilibrium. Anyone who is one week ahead of the authorities can make a killing. A disequilibrium that deserves the designation "fundamental" can hardly be removed by a parity adjustment by less than 10 or 12 per cent. To cover the risk or expectation of such an adjustment just one week before it takes place is equivalent to a yield of 52 times the percentage change, or 520 or 624 per cent per year on the investment in the transaction. This is an irresistible opportunity.

If adjustment *when necessary* is the most crisis-prone exchange-rate system that can be imagined, "prompt" adjustment *when warranted* (or deemed prudent) would be a vastly superior system. The rationale of this higher degree of flexibility would be that parities should be adjusted when an "incipient disequilibrium" is recognized. This rule would surely imply that parity adjustments are made much earlier and by smaller percentages. If this should mean adjustments by 3 or 5 per cent, the gains of those who succeed in anticipating the decisions of the monetary authorities by one week would be equivalent to annual rates of return of 156 or 260 per cent — much more modest than under the system that required the

recognition of fundamental disequilibrium, but still big enough to encourage anticipations of official decisions.

Many experts hold that one could not reasonably ask for any parity adjustments smaller than 3 to 5 per cent. Their reason is that no indicators exist that would point to an incipient disequilibrium of a magnitude less than 3 to 5 per cent of the existing parity. A smaller deviation of the "equilibrium" exchange rate from the fixed parity would not be visible to any "statistical eye"; with the data available or obtainable a deviation of 1 or 2 per cent would be economically meaningless; it might be less than the standard error. Indeed, with such minute deviations even the sharpest observers could not know in which direction an adjustment was "warranted".

Uncertainty on the part of the monetary authorities about whether the situation did or did not warrant a parity adjustment would not prevent private traders and corporate money managers from forming strong impressions on the most likely trend of market forces. If they observed that exchange rates had been lingering close to the upper or lower edge of the band and that the authorities had been accumulating or depleting reserves in order to keep rates from breaking out of the limits of the band, they would start doubting the authorities' continuing willingness or ability to stem the supposed tide or trend. With actual exchange rates close to the limit of the band, a parity adjustment would involve a change of these actual rates, and if parities are adjusted by 3 per cent or more, the chance of gain (or avoidance of loss) would make it worth while (and obligatory for a responsible corporate treasurer) to anticipate the official action.

Thus, trading firms would hasten to cover their previously uncovered exchange risks. The resulting flows of liquid funds would add strength to the market forces that had been pushing the exchange rates to the edge of the band. Leads and lags in payments in foreign trade would further aggravate the imbalance: exporters and importers would extend or shorten the customary intervals between delivery and payment. (Exporters who had invoiced in foreign currency would want earlier payment, and offer a discount for it, if they now expected their own currency to be revalued upward, and later payment if they expected it to be devalued. Importers who had agreed to pay in foreign currency would delay payment if they expected an upvaluation of their own currency, and

would pay sooner if they expected a devaluation). The effects of these leads and lags, which cannot be effectively subjected to any governmental controls, can reach magnitudes larger than the "floods" of liquid funds set in motion by outright "speculators".

It follows that parity adjustments by 3 per cent are still too large to be managed without "destabilizing" movements of funds and, thus, without disturbing crises of confidence. Expectations of adjustments by 3 per cent may lead to capital movements and "unrecorded items" of a magnitude that can overwhelm the monetary authorities concerned and may in fact induce them to make parity adjustments much bigger than the small ones they had contemplated. The sensible conclusion is to change parities only in a crawling fashion and avoid jumps in excess of 1 per cent.

Flexibility by Gliding Parities

In a world in which adjustments of par values are unavoidable, two kinds of speed limits for parity adjustments are necessary in order to avoid destabilizing movements of capital: one limit for the size of each single change of parity, another limit for the cumulative change over any twelve-months period. Each change should be smaller than the transactions cost of operation designed to take advantage of any foreknowledge or premonitions of the adjustment. Thus, no single change should be greater than 1 per cent and normally it should be much smaller. The cumulative change over a twelve-month period should not exceed the largest interest differential between the country in question and the countries in which the currencies are issued whose prices would be raised or lowered by the successive adjustments. Assuming that most central banks would not want to maintain interest rates that are more than three per cent below or above those prevailing abroad, one can stipulate three per cent as the largest cumulative annual rate of parity adjustment. This would make capital movements for purposes of gaining from exchange-rate changes unattractive. The two speed limits combined could practically eliminate the danger of "destabilizing speculation".

The last assertion presupposes that people trust the assurances of their governments that the two speed limits of parity change would be strictly observed. If these assurances are not credible, and

are in fact doubted in the face of fast changes (especially depletions) of reserves held by the monetary authorities, the propensity of traders and money managers to protect themselves against sudden devaluations or revaluations of currencies would be not much weaker than under allegedly rigid but in fact "jumping" parities. It would therefore be important to have the International Monetary Fund guarantee virtually unlimited financial support for the maintenance of exchange rates within the band around the slowly moving parities. Such a guarantee, admittedly, would not be feasible for rigid parities (because all given parities become "misaligned" sooner or later) and, thus, could not be maintained for very long. With frequent adjustments, however, up to three per cent a year, (and with firm obligations of monetary authorities to refrain from pursuing policies incompatible with the observance of the stipulated speed limit for parity adjustments) the guarantee of support by the IMF should be practical as well as effective.

A rather obvious objection to the proposal of gliding or crawling parity adjustments must be considered. If statistical indicators warn the authorities that a parity adjustment upward or downward is warranted, this warning will ordinarily come so late that an adjustment by 1 per cent at a time and 3 per cent over a year, may be inadequate; if, on the other hand, the statistical indicators give no warning of an incipient misalignment of the par value, then the authorities could not tell whether they should move the parity up or down. The answer to this objection, however, is equally obvious. If an incipient or advanced "disequilibrium" is inferred from the indicators, the change of the parity in three steps adding up to 3 per cent over a year may not be enough to achieve the desired adjustment but will surely be better than nothing; if, on the other hand, there is no indication of a warranted adjustment, it could do no harm to move the parity by an insignificant amount, say, 1/10 or 1/25 of one per cent, in either direction. The flexing of the parity in this case would serve no economic purpose, but would be advisable for reasons of political psychology (or even political physiology).

To move parities just for the exercise is recommended because atrophy and paralysis are likely to set in if the parity remains unchanged for as little as two years. If a country keeps fixed parities or intervention points for its currency invariant for such a period, a change thereafter cannot help having political significance and

meeting political resistance. A system cannot be flexible and stay flexible if every move becomes a matter of political argument and debate. Hence I define "frequent" changes as those that are made so often that they have no longer any news value and are reported only on the financial pages of the daily papers. I suppose that this would require at least two or three parity changes a year. If change is not needed for economic reasons but only in order to avoid atrophy, all movements will be of minimal magnitude and in the nature of random walks, up and down, down and up, without any design.

Only in instances when incipient disequilibrium is suspected to exist — for example, when the rates of wage and price inflation differ markedly among countries — the consecutive small changes of the parity (or intervention rates) will reveal a design. Single changes may then be as large a 1 per cent and consecutive changes may be in the same direction to initiate, however slowly, a process of adjustment of the international flows of goods and services.

Flexibility by Managed Floating

The third category of flexibility in the exchange-rate system is characterized by an absence of established par values. Thus, parities are neither rigidly fixed nor frequently adjusted for there are no parities at all, at least none that are observed in official interventions in the foreign-exchange markets. If the monetary authorities intervene without committing themselves to the intervention rates at which they buy or sell foreign currencies or if they entirely abstain from intervening and thus let the exchange rates be determined by supply and demand in the market, we speak of floating currencies.

Letting the currency float freely, without any official interventions (through official sales and purchases) and without governmental interferences (through prohibitions, restrictions and controls), is the "ideal" system described by monetary theorists and prescribed by monetary idealists — and proscribed by monetary practitioners. Since the world is ruled by men of practice, floating will practically always be *managed* floating, that is, with official interventions, either with or without governmental interferences. Professor Schiller, former Minister of Finance in Western Germany, coined the term "dirty floating" to designate a system in which exchange rates,

though not bound by fixed parities, are being messed up by interventions and interferences. "Dirty floating" is apparently becoming the exchange-rate system of our time.

The dirtiest type of floating employs administrative controls to discriminate among various kinds of transactions according to sources and uses of funds, prohibiting some and authorizing others, assigning some to one tier of the market and others to another tier with different exchange rates. The splitting of the foreign-exchange market, usually into a commercial and a financial sector, is the worst offence against economic rationality. It tries to prevent that currency received from exports of goods is used for moving capital abroad, and that currency received from capital inflows is used for paying for imported goods; it thus destroys one of the essential functions of money. Splitting the market into a sector with managed exchange rates and a free sector could be a rather harmless affair, provided that the second market is really free in the sense that any kind of transaction, commercial as well as financial, can be carried out without constraints. Such an arrangement, however, cannot endure because the monetary authorities will run out of foreign reserves if they sell them below the free-market rate or will accumulate excessive reserves if they buy them above the free-market rate.

Managed floating can be almost as clean as free floating if it is not intended to influence the exchange rates in the long run, or even over a medium term, but merely to smoothen out excessive day-to-day fluctuations. Such management, to approach clean floating, must not include any restrictions or controls on private transactions, commercial or financial, and must confine itself to interventions by selling or buying only modest amounts of foreign exchange for short periods of time. Its operating principle is maintenance of reserves within relatively narrow limits, avoiding large accumulations as well as large decumulations.

Accumulations of foreign-currency holdings would indicate attempts to keep the prices of foreign currencies from falling, and decumulations would indicate attempts to keep them from rising. Official purchases could then be interpreted as a policy of "competitive undervaluation" of the country's own currency (to protect export industries and import-competing industries), while official sales of foreign exchange would constitute a policy of maintaining an overvalued currency (usually for political reasons). To avoid the perpetuation of such disaligned exchange rates, strict limits must

be observed regarding permissible fluctuations in the size of official reserves and regarding the length of time for which the interventions in the foreign-exchange market may be continued. If in the years to come, managed floating should become widespread practice, international arrangements to prevent competitive undervaluations and extended overvaluations will be needed: otherwise an ever-thickening web of restrictions and controls on international trade will develop.

In principle, it would be possible to operate a system of managed floating that is *de facto* equivalent to a system of gliding parities. This may sound paradoxical in as much as floating currencies have no par values. However, central values or central intervention rates may take over the role that parities have under a crawling-peg system. Instead of altering the official parities with strict limits regarding the size of each single change and the size of the cumulative change over each twelve-month period, one may manage the floating in precisely the same way, observing the same limits for alterations of intervention rates. From a strictly economic point of view there need not be any difference between the two systems. There may, however, be strategic differences in the credibility of the two systems and in the possibility of obtaining guarantees of financial support from an international body such as the I.M.F.

Flexibility by Free Floating

Perhaps a few words should be added on the question of perfectly clean, perfectly free floating. We have no recent experience with such a system; the lessons of experience from the 19th century — when it was practiced in Austria and elsewhere for several years — are not accepted by those who believe that the present dimensions of capital movements make all past experience irrelevant for our time. The floods of funds which nowadays, at the slightest rumored provocation, may inundate a country within a few hours could play havoc with the structure of exchange rates in a free market. It is usually overlooked that these overwhelming floods have always been responses to rumors about likely changes in parities or official intervention rates. In any case, the argument that with perfectly free markets — in the absence of all official interventions and interferences — the feared destabilizing movements of funds

would not occur (or would be reversed as soon as the exchange rates responded to the market forces) has not convinced the opponents of *laissez faire* in foreign exchanges.

Will there ever be an opportunity to try the system of free floating? If what has not been tried in practice is called impractical and what is called impractical will not be tried, the chances for an experiment are poor indeed. Under these circumstances it may be wiser to concentrate on selling types of flexibility that may be workable and appear more saleable: if not gliding parities then floating currencies managed either to approach the working of gliding parities or to approach free floating. This need not mean that economists should always settle for a second-best or third-best solution. We have seen that the economist's teaching is sometimes effective, especially if severe crises come to his aid and drive home the points to which the men officially in charge had been closing their ears or their minds. I conclude, therefore, that the economist need not always be impressed with the political "impossibility" of getting his best proposals accepted. He should continue to offer freely flexible exchange rates or smoothly gliding parities as superior choices.

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