ESSAYS IN INTERNATIONAL FINANCE

No. 72, February 1969

THE CASE FOR FLOATING EXCHANGE RATES RECONSIDERED

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INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the seventy-second number in the series ESSAYS IN INTERNATIONAL FINANCE *published from time to time by the International Finance Section of the Department of Economics at Princeton University.*

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FRITZ MACHLUP, *Director*
International Finance Section

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L.C. Card 75-78495

Printed in the United States of America by Princeton University Press
at Princeton, New Jersey

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ECONOMIC FACTORS

A few years ago, in a panel discussion on the pros and cons of floating exchange rates, Milton Friedman expressed his discontent with the progress that had been made in "the state of intellectual discourse on these issues." Friedman's discontent is justified; the debate goes round and round without a stopping place, with proponents and opponents of floating rates for the most part talking past each other. It is not difficult to understand why this is so. Those on each side of the controversy have been so concerned with scoring debating points against each other that hardly anyone—certainly not Friedman himself—has bothered to tackle what is, after all, the chief task of the economist: to present a calculus in which the relative costs and benefits of the alternatives before us can be presented, quantified, and compared.

To be sure, the costs and benefits in this case are difficult to specify, both theoretically and empirically. (In addition, there are political factors, discussed at the end of this essay, which are incapable of quantification.) According to opponents of floating rates, their chief cost would result from the discouragement of foreign trade and investment. According to proponents of floating rates, their chief benefit would derive from the greater freedom permitted domestic economic policies in attaining macroeconomic goals. The approach that first suggests itself is to attempt to estimate (1) the welfare losses accompanying the estimated decline of foreign trade and investment, and (2) the welfare gains due to the estimated improvement in the macroeconomic performance of the economy. Both these complicated estimates would have to take into account the counterarguments that (a) the use of trade barriers and capital controls for balance-of-payments purposes under fixed exchange rates tends to reduce the volume of foreign trade and investment, and (b) the attainment of macroeconomic goals may be made more difficult under floating rates to the extent that the latter result in the introduction of an inflationary bias into the system. Obviously, there would have to be a good deal of guesswork in constructing such estimates, but even "guesstimates" provide a better basis for economic decision-making than lists of arguments.

Yet the estimates just described would not be based on the most comprehensive possible view of the problem. They would be based on the

assumption that a reduction in the volume of foreign trade and investment necessarily entails a welfare loss owing to a poorer international allocation of goods and resources, just as, for example, an increase in tariffs is usually assumed to lead to a welfare loss. But there is a difference between the case of floating exchange rates and the case of tariffs. Tariffs represent an artificial barrier to trade, which creates a discrepancy between the domestic price ratio of foreign and domestic goods facing importers and exporters and the terms of trade (the ratio of c.i.f. import prices to f.o.b. export prices). In the case of floating exchange rates, foreign trade is burdened by an additional exchange risk that creates no discrepancy between these two ratios but does add a real cost to the activities connected with importing and exporting commodities. But if this is a real cost why does it not appear, or why is it much smaller, under fixed exchange rates? It is because by pegging the exchange rate, thereby removing a large part of exchange risk, the government is in effect subsidizing those engaged in international transactions. The next sections of this essay explain this line of reasoning in greater detail.

The Effects of Exchange Risk

The risk caused by uncertainty about future profits can be assumed to represent a cost to an entrepreneur. *Ceteris paribus*, a *rise* in the variance of expected profits in an activity will tend to diminish its attractiveness to entrepreneurs and thereby to induce some resources to be transferred to other activities, while a *reduction* in the variance of expected profits will tend to draw resources from other activities. In some cases it will be possible to acquire, at the entrepreneur's own cost or that of the government, insurance against the variance in profits owing to exchange-rate variation, in which case the risk appears as an objective money cost in the profit calculation of the firm or the public costs of society. In part, the variance of expected profits cannot be eliminated by insurance and is treated in the theory of the firm as a "subjective cost" in the entrepreneur's calculations. Since the inclusion of nonmonetary elements (probability distributions and the like) in economic theory greatly complicates analysis and makes it difficult to arrive at any conclusions about Paretian efficiency, we will in what follows make the drastically simplifying assumption that the variance in profits resulting from exchange-rate variations—that is, exchange risk—can be represented as a monetary cost. We will call this the cost of exchange risk.

The greater the variations in exchange rates, the greater will be the variance of expected profits in all activities involving foreign-exchange transactions. (This assumes that greater variation in exchange rates would not result in, and be offset by, smaller variations in other variables

affecting profits.) Since exchange-rate variations can be expected to be at least somewhat greater in amplitude, frequency, and unpredictability under freely floating exchange rates than under fixed rates, the cost of exchange risk will also be greater. Thus, if exchange rates were permitted to float, the additional cost would force marginal firms out of the exporting or importing business, eliminate marginally profitable exports, eliminate imports that are marginally cheaper than domestic substitutes, and discourage marginally profitable foreign investments.

In short, floating exchange rates should, *prima facie*, have *some* dampening effect on international trade and investment. This is the ineluctable result of general equilibrium analysis. There are three arguments that can be put up against this reasoning: (1) that the additional cost will be so small that the effects on the volume of foreign trade and investment will be negligible (2) that the change-over from fixed to floating rates would be accompanied by the abolition of many or all officially sponsored trade barriers, so that the *net* effect will be an increase, or at least no decline, in international economic activity, and (3) that, under fixed rates, the temporary quotas or controls imposed for balance-of-payments reasons constitute for those engaged in international commerce a risk at least as great as exchange risk under floating rates. Let us look briefly at each of these arguments in turn.

As far as argument (1) is concerned, the proponents of floating exchange rates generally treat the cost of exchange risk as if it were tantamount to the cost of forward cover. This seems to me to be a confusion. The cost of forward cover is indeed kept very small—except, perhaps, during serious foreign-exchange crises—by interest arbitrage. But the exchange risk eliminated by forward cover is of a very specific and limited kind; it is the risk that the profit on a particular *transaction* will be eliminated by a variation in exchange rates. The discussion above refers to a more general type of exchange risk: the risk that profits in a particular *activity* over a particular period of time will be unsatisfactory owing to changes in the exchange rate. This type of exchange risk cannot be eliminated by forward cover. Although the above analysis assumes that this risk can be translated into a monetary equivalent, there is at present no market where insurance against such a risk can be bought; hence, we do not know the magnitude of cost of exchange risk as defined above, except that it is presumably greater than the normal cost of forward cover, which eliminates a risk based on less uncertainty.

The second argument is based on the extremely questionable assumption that what prevents the existing set of trade barriers from being removed are balance-of-payments considerations. In fact, it is the power of special interests which maintains trade-distorting policies, and neither

these interests nor their power would disappear with the coming of greater exchange-rate flexibility.

The weakness of the third argument is that as long as quotas or controls are temporary, foreign traders and investors are not faced with a *permanent* loss of markets or sources of supply or funds invested abroad; however, it is always possible that a change in the exchange rate may never be reversed.

Pegged Exchange Rates: A Subsidy to Foreign Trade and Investment

I have just argued that the cost of exchange risk is (normally) likely to be greater under floating than under fixed exchange rates. Pegging the exchange rate is equivalent to granting a subsidy to those activities involving the purchase or sale of foreign exchange. Of course, exchange risk is only one of many types of risk, and all activities are subject to risk of some kind. If certain firms are subsidized by the removal of a part of their risk, while others are not so assisted, there results a different allocation of resources than would be the case if no such assistance were given. Removing or reducing exchange risk by means of pegging the exchange rate represents a peculiarly complicated sort of subsidy, varying in degree for each firm depending on the relative extent of the firm's dependence on foreign trade or investment. It is not surprising, therefore, that international bankers and traders, whose involvement in international commerce is relatively the greatest, are precisely the ones who are most vociferous in their opposition to floating rates, for they receive the greatest relative subsidy from the government's pegging of the exchange rate.

Pegging the exchange rate represents government intervention in the free market, but with a different effect than such interventions as import tariffs, quotas, and exchange controls. These constitute an artificial *barrier* to international commerce, while pegging the exchange rate constitutes an artificial *encouragement* to the same. One might also add that, while ordinarily artificial barriers to trade are, at least in their intended and direct effects, one-sided (that is, barring domestic purchases of foreign goods and assets, but not foreign purchases of domestic goods and assets), the effects of pegging the exchange rate are obviously two-sided. Without the pegging, the additional cost of exchange risk raises the cost of imports and the profitability of exporting for all countries; there is a change in the profitability of foreign trade and investment for all countries, enough to encourage greater national self-sufficiency, exactly as would be the case if transport costs relative to the value of merchandise were to rise.

It is a curious fact that economists, who carry around neoclassical general equilibrium theory as a part of their mental equipment, rarely if ever see fit to question the assumptions that a reduction in international

commerce is bad and its encouragement is good. If one should ask an economist whether it is necessarily desirable to subsidize industry X while not subsidizing industry Y, he would immediately reply in the negative. But then, considering the fact that some degree of risk and uncertainty is present in all markets, is it necessarily true that special assistance should be given to those in the business of exporting or importing goods or securities? Are we necessarily better off because international commerce is subsidized through the government's bearing the exchange risk, while most types of domestic commerce receive no government assistance in risk-bearing? The answers to these questions must also be in the negative.

Are the social costs of the present method of subsidizing international commerce justified by the benefits (if any) society derives as a result of the subsidy? This is the question which properly poses the chief economic issues of the debate over greater exchange-rate flexibility. To facilitate the following discussion, I should like to put this question in a somewhat different way: do the macroeconomic costs of the present method of subsidizing international commerce justify the net increase (if any) in productive and allocative efficiency resulting from the subsidy? Before discussing these costs and benefits in detail, it would perhaps be helpful to describe them briefly.

First of all, the net increase in efficiency. If there were no externalities involved in the international economic activities of persons and firms, there would be some reason to presume that the governmental subsidies given to them produce a misallocation of resources in favor of internationally oriented activities. There may, however, be externalities involved. Two that immediately come to mind are (1) the greater variety of goods available, and (2) the competitive spur to greater efficiency and to more energetic innovating efforts in domestic industry.

The macroeconomic costs of pegging the exchange rate are threefold: first, the difference between the cost of holding international reserves under fixed exchange rates and the cost under floating exchange rates; second, the social cost represented by the difference between the best attainable values of macroeconomic "target variables" under fixed exchange rates, and the best attainable values under floating rates; and third, the social cost represented by the more inequitable distribution of the cost of exchange-risk insurance under fixed rates than under floating rates.

The Effects of Pegged Rates on Allocative and Technical Efficiency

Through its effects on the volume of foreign trade, the introduction of floating exchange rates would affect the domestic allocation of goods and

resources and the efficiency of resource utilization. Through its effects on the volume and pattern of foreign investment, floating rates would affect the international allocation of capital resources. We will now consider what these effects are likely to be and whether they would tend to increase or decrease economic welfare.

The Effects on Foreign Trade

A government subsidy to particular industries misallocates resources in favor of those industries unless the subsidies offset an excess of private cost over social cost, or of social over private benefits, in those industries. This statement must be qualified, however. According to the theory of the second-best, assertions of this sort are not generally valid in a world of market imperfections, and the absence of perfect foresight (producing uncertainty and risk) is just such an imperfection. Nevertheless, speaking on the level of practical economics, an economist has a visceral reaction against a policy of subsidizing certain industries and not others, unless there is a very clear case for doing so based on obvious and significant disparities between private and social costs or benefits.

One disparity between social and private benefits in foreign trade may occur as a result of the wider range of choice of products which foreign trade permits. Maintaining a wide range of consumer choice has been suggested as a separate goal of economic policy, and there may be a price to be paid for maintaining a wide choice. The profit that the importer makes reflects only the benefit given to those actually purchasing the imported varieties. But even the consumer who ends up purchasing a domestically produced good may receive benefits from the availability of an imported substitute: (1) his satisfaction from the good may be greater when he knows it is the best (for him) of a wide range of available varieties than when he has picked it out from a more limited range, (2) a wider range of choice may also increase the pleasure of shopping for the good, and (3) the external aspect of life in a country may be more pleasant and interesting for all its inhabitants when there is a larger variety of clothes being worn, cars being driven, and other publicly visible goods being consumed.

The effects of foreign trade on domestic firms bring about further external economies for domestic consumers. Foreign competition stimulates technical and managerial efficiency, as well as innovations in both technique and product. This is obviously a benefit for the consumers in a society, although not necessarily a benefit for producers, who enjoy less leisure than they would in a protected market. Whether or not there is a net benefit involved is a question best answered by the reader. In any

case, the benefit to the *consumers* is not internalized in the form of profits by those in the import trade.

It should be clear that any reduction in foreign trade also reduces the degree to which the above-mentioned benefits are present. An overall rise in the cost of imports will lead to the elimination of those imported goods whose importation had previously been only marginally profitable. This results in a smaller variety of goods available for the consumer and in reduced external competition for industries producing import-competing goods.

The Effects on Foreign Investment

Nothing has been said thus far about the welfare effects of marginal reductions in foreign investment. It was the opinion of Keynes—and subsequent writers have followed him in this—that floating exchange rates would discourage foreign investment, with its relatively long time horizons, to a far greater extent than foreign trade with its relatively short time horizons. More recently, this opinion has been qualified, by Leland Yeager and others, by the suggestion that floating exchange rates may affect the *form*, not only the total *volume*, of international flows of capital. Foreign investment under floating rates would tend to concentrate on equity shares rather than bonds, since any change in the exchange rate owing to different rates of inflation would tend to be matched by corresponding changes in the money value of equity shares.

Let us assume, for the sake of discussion, that floating exchange rates would affect both quantity and quality of foreign investment. What can we say about the resulting effects on economic welfare? Economic theory tells us that international flows of capital tend to result in an improved international allocation of capital resources; that, if freed from government controls, capital will move from countries where the marginal efficiency of capital is low to countries where it is high. If this were indeed the case, any reduction of international movements of capital through increased exchange risk should be expected to lower the world's real income, and this is a reason often adduced against floating exchange rates.

But is it in fact the case that capital moves internationally to those places where its marginal efficiency is highest? More specifically, would the elimination of the least profitable foreign investments, as a result of floating exchange rates, really lower world income? Most economists would immediately answer these questions in the affirmative, but there are reasons for supposing that no definite answer is possible, at least not on the basis of our present knowledge.

In the first place, it is to be doubted, as Friedrich Lutz has recently reminded us, that international differences in the marginal efficiency of capital are accurately reflected in the international interest-rate differentials which motivate international flows of *financial* investment. This is because differences in money interest rates are to some extent due to differences in rates of price inflation. If the price level in country *A* is rising more rapidly than that in country *B*, and the marginal efficiency of capital is the same in both countries, the equilibrium money interest rate is likely to be higher in country *A*. If exchange rates are expected to remain fixed indefinitely, it will pay residents of *B* to invest in *A*. (This may, in fact, be a partial explanation of American financial investment in Europe.) There cannot, therefore, be a presumption that a reduction of financial investment would bring a less desirable international allocation of capital resources.

Even *direct* foreign investment, one suspects, does not necessarily flow from low- to high-productivity uses. This may be particularly true of foreign investments by the great international corporations. Once the management of such a corporation has decided to seize and maintain a share of foreign markets, it may press ahead with this program even when marginal investments are not as profitable as alternative investments at home. Moreover, it may be doubted whether direct investments of large corporations would be much affected by exchange-rate stability (witness, for instance, the extent of North American investment in Brazil.)

Thus, as far as a reduction in the *quantity* of foreign investment is concerned, we must remain agnostic in regard to the welfare effects, at least as far as the level of world income is concerned. (It may, however, be unambiguously the case that recipient countries are worse off with a smaller inflow of foreign capital.) As far as the *quality* of international investment is concerned, floating exchange rates may actually lead to improvements. The increased concentration on equity investment, suggested earlier as a likely consequence of floating exchange rates, would probably lead to a closer correspondence of the actual flow of foreign investment to that justified by international differences in capital productivity. In addition, the foreign investment in bonds taking place under floating rates would be less likely to be distorted by the effects of different rates of price inflation. This is so because the effects of different rates of inflation on money rates of interest would be offset at least in part by changes in the exchange rate. Thus, to take our earlier example, the attractiveness of investing country *B*'s funds in country *A*, with its higher money interest rate (resulting from a higher rate of inflation), would be

offset by the depreciation of *A*'s exchange rate (also due to its higher rate of inflation).

In short, the welfare effects of changes in the volume and form of international investment resulting from floating rates are most uncertain, and it would appear that whatever loss of welfare occurs as a result of declines in the volume of foreign investment may be offset by a new routing of investment that is more sensitive to international differences in the marginal efficiency of capital.

In considering, then, the effects of fixed exchange rates on the allocative and productive efficiency of economic resources, we should concentrate our attention on the effects on trade. Assuming that pegging the exchange rate encourages international trade, there is some reason to suppose that its net effect as regards efficiency is positive. On the one hand, a misallocation of resources may be involved when certain economic activities are subsidized and others are not, but studies of other types of resource misallocation, such as those created by monopolies or tariffs, suggest that the welfare effects of such misallocation would be negligible. The importance of technical and managerial efficiency, together with casual observation of the effect of reducing tariffs inside the European Economic Community on the range of consumer choice and prices in Western Europe, suggests that the welfare effects of resource misallocation could easily be more than offset by the external economies of trade which we have discussed above.

The question remains, however, whether this net benefit outweighs the macroeconomic costs of pegged rates. Let us now turn to a consideration of these costs.

The Macroeconomic Costs of Pegged Rates

The chief argument in favor of greater exchange-rate flexibility is that the latter would provide greater freedom for achieving national macroeconomic goals than is possible under the balance-of-payments discipline of pegged rates. One possibly valid criticism of this proposition is Robert Triffin's argument that, assuming floating exchange rates would lead to greater fluctuations in the exchange rate, a "ratchet effect" would tend to raise the price level more rapidly over time than would be the case under pegged rates. Every time there is a depreciation of the exchange rate, the resulting rise in the cost of living will prompt increases in domestic wages and prices, while, because wages and prices are downwardly inflexible, no symmetrical fall in their level will occur each time the exchange rate appreciates. Another possibly valid argument that could be made against floating rates is that, if they produce significantly

greater monthly, seasonal, or annual fluctuations in the exchange rate than is the case under pegged rates, the result will be over-frequent attempts of the market to reallocate resources among the export, import-competing, and domestic sectors, leading in turn to an increase in the average rate of frictional unemployment. This frictional-unemployment effect, taken together with Triffin's ratchet effect, make it theoretically possible that the best attainable configuration of rates of inflation and employment under floating rates is not so good as the best attainable configuration under fixed rates.

Other arguments have suggested that floating exchange rates would involve net macroeconomic costs rather than benefits. A number of writers, such as Jacob Viner and Robert Roosa, have asserted that releasing national economic authorities from the discipline of pegged rates would open the door to inflationary policies, either because the authorities lack a proper abhorrence of inflation *per se*, or because, without fixed exchanges, they lack political defenses against the powerful groups pressing for inflationary policies. These arguments, in their most extreme forms, envision a system of floating exchange rates which disintegrates into successive waves of inflation and exchange-rate depreciation throughout the world. Otmar Emminger has argued that floating rates would damage the effectiveness of stabilization policy when a disturbance is of internal origin: domestic inflationary pressures will be increased by the exchange-rate depreciation caused by the initial inflation while deflationary policies—designed to reduce domestic absorption, encourage exports, and discourage imports—are in danger of overshooting the mark, thereby causing the exchange rate to appreciate, which will encourage *imports* and discourage *exports*.

Both these arguments are based on the assumption that the authorities are unwilling or unable to pursue proper policies, because (1) of an insufficient respect for price stability, (2) of the excessive power of those pressing for inflationary policies, or (3) of the greater uncertainty introduced into the calculations of the economic authorities by floating rates. There is some force in the latter argument, but the others are specious. To see why this is so, consider the argument that follows. Up till now, the influence of conservative monetary authorities has been excessive. The majority opinion has favored more expansionary policies, but the monetary authorities have been able to push through their point of view by appealing to the necessity of avoiding or correcting balance-of-payments deficits. As a result, there has been altogether too much unemployment and excess capacity in major industrial countries, notably in the United States and United Kingdom, during the last twenty years. With floating rates, the monetary authorities would no longer be able to cow

the majority into accepting unpopular policies, and the majority would finally have the kind of policy it really wants.

Would this argument be less valid than the Viner-Roosa argument? In fact, the analysis contained in both arguments is the same. The difference between them lies solely in the value judgments underlying the interpretation of recent history and of the probable results of floating rates. This is why this particular argument against floating rates, although often employed, has no place in an attempt to analyze the question from an uncommitted viewpoint.

In summary, there are three reasons, possibly valid in some circumstances, why the greater apparent freedom which floating exchange rates would permit for economic policy might not result in net macroeconomic benefits: (1) floating rates may result in an inflationary bias due to Triffin's ratchet effect, (2) floating rates may lead to a rise in the average level of frictional unemployment, and (3) under floating rates macroeconomic policy may be less effective owing to the greater uncertainty under which policy-makers would operate. Whether or not these considerations would outweigh the benefits of greater freedom for domestic economic policy, the proper way of reckoning the net macroeconomic costs (or benefits) of pegged rates would be to compare the results of the optimum policy mix under pegged rates and that under floating rates. Such a comparison would fall into three parts: first, a comparison of the costs of holding international reserves under the two systems; second a comparison of the configuration of best attainable values of macroeconomic "target variables" under the two systems; third, a comparison of the equity of the distribution of the cost of exchange-risk insurance under the two systems.

The Costs of Holding Reserves

The holding of international reserves entails an opportunity cost to the holder. The reserves could be used to finance additional present consumption, or additional investment, or some combination of both. From this opportunity cost should be subtracted the yield on those reserves which are held in the form of interest-bearing securities. Advocates of freely floating exchange rates, under which there is no government intervention whatsoever, can claim that under such a system there would be no need for reserves. However, there is considerable doubt that the total absence of governmental intervention in the foreign-exchange market is a realistic possibility. If a government adopted either a system of managed floating rates or a crawling peg, reserves would still be needed, and the question would then arise whether the desired reserves under these systems would be smaller than under fixed exchange rates.

Sir Roy Harrod, for one, has argued that larger reserves would be required owing to the allegedly greater probability of massive speculative capital movements occurring under these systems. Proponents of greater flexibility would argue that destabilizing speculation could be curbed by intervention in the forward exchange market, which requires a relatively small reserve base. Whichever system requires the smaller reserves entails the lower cost of holding reserves. This difference in cost may very well be of a smaller order of magnitude than either of the two other types of cost discussed below.

Comparing the Best Attainable Values of Target Variables under the Two Systems

One of the limitations of economic policy in modern industrialized societies is the negative trade-off that apparently exists between the rate of inflation and the rate of unemployment, lower rates of unemployment being associated with higher rates of inflation. In addition, the rate of growth of output, to the extent that it represents the rate of growth of output per man-hour, may affect the favorableness of the inflation-unemployment trade-off: that is, a higher rate of growth of output per man-hour makes it possible to satisfy the demands for wage increases associated with a given rate of unemployment (the relationship shown by the Phillips Curve) without corresponding increases in product prices.

Under fixed exchange rates, the balance of payments is affected by both the rate of inflation and the rate of growth of output. The direction of the first of these relationships is obvious and needs no explanation. The direction of the effect of the rate of growth on the balance of payments is not so clear. A higher rate of output growth will tend to increase the rate of growth of imports. In some cases, however, a higher rate of growth may have been initially stimulated by a higher rate of growth of exports, matching the induced growth of imports and, in addition, a higher rate of output growth may induce larger inflows of direct investment from abroad. In many cases, however, under fixed exchange rates, economic authorities will find themselves constrained by balance-of-payments considerations not only from lowering the rate of unemployment (which would increase the rate of inflation) but also from trying to stimulate an internally generated higher rate of growth. Floating exchange rates would allow policy-makers to be freed of these constraints, although, in some cases, at the price of a continually depreciating exchange rate.

The comparison we should make, then, must include the best attainable combination of employment, inflation, and growth rates under each system. In addition, the movement in the terms of trade under each

system should be compared, and perhaps included in the calculation of the best attainable set of goals, since the terms of trade affect the level of real aggregate income enjoyed by society.

To evaluate all these by a common measuring stick, one might adopt procedures such as the following:

(a) For the given period, evaluate the unemployment rate by the amount of product sacrificed because of the unemployment. To this, one should add the extra costs to society resulting from unemployment, such as the cost of hiring extra policemen and social workers to deal with the social problems created by unemployment. (One should not add extra welfare payments, because this affects the *distribution* of income rather than total product available for investment and consumption.)

(b) The evaluation of the costs resulting from the rate of inflation depends, strictly speaking, on value judgments. Inflation causes a redistribution of income from creditors to debtors and from those living on fixed incomes to those whose income tends to rise along with the cost of living. The value judgment of this writer is that some account should be taken of the effect of inflation on the real incomes of those—retired, handicapped, or women with small dependent children and no husband —who cannot seek employment and depend on incomes whose nominal value tends to lag significantly behind the rise in the price level. A further value judgment of the author's is that such an evaluation should take into account only those whose expected future income stream is judged to be at or below some "middle-income" level. (For instance, one should ignore the fall in the retired millionaire's annual income from $100,000 to $90,000.)

(c) The evaluation of the benefits resulting from growth over the particular period consists of two parts: first, the greater total product available to society over the given period, and second, the discounted value of future income stream which will be available to society after the end of the given period as a result of additional capacity available and additional reinvestment of income made possible by growth during the given period.

(d) Some account should be taken of the change in aggregate real income resulting from changes in the terms of trade. These changes may be different under floating than under fixed rates, because of the changes in the exchange rate induced by different macroeconomic policies undertaken under floating rates and a possibly different sectoral pattern of growth resulting from a different rate of capital accumulation.

If it is true that floating exchange rates permit greater freedom of policy choice than fixed exchange rates, then it should be true that at

least as good a combination of rates of employment, inflation, growth, and change in the terms of trade can be achieved under floating as under fixed exchange rates—namely, that combination with which imbalances in international payments under fixed exchange rates are avoided. This will not, however, be true if there are exchange-rate fluctuations which produce Triffin's ratchet effect or a rise in the average rate of frictional unemployment so pronounced as to make all combinations of growth, inflation, and employment rates inferior to one or more feasible combinations under fixed exchange rates. This situation is most likely to occur in highly open economies where the domestic price level is very sensitive to changes in the exchange rate. In such economies, the ratchet effect or the frictional-employment effect might be avoided by closer official management of the floating rate so as to prevent serious fluctuations. The macroeconomic benefits of this procedure would be offset in part by the costs of holding the additional reserves necessary for managing the exchange rate. In any case, it appears clear that the more open an economy, the smaller are likely to be the macroeconomic benefits of allowing the exchange rate to float.

The Distribution of the Cost of Insuring against Exchange Risk

A system of officially pegged exchange rates involves a certain type of distribution of the burden of exchange-risk insurance over the entire community. Those individuals and firms in the economy that receive relatively little benefit from international trade and investment must nevertheless share more-or-less equally the macroeconomic costs of pegging the rate. This constitutes an inequity, and it is one which it would hardly be practicable to redress by means of compensatory transfer payments, for to establish criteria for such payments, taking into account both the distribution of the implicit subsidy, and the distribution of the macroeconomic costs involved, among all persons and firms in the country, would be an impossibly complicated task. A system of floating rates, on the other hand, would place the cost of insuring against exchange risk squarely on the shoulders of those directly profiting from international commerce. This arrangement would be inequitable only if it could be shown that the activity of insuring against exchange risk provided external economies for those not directly involved in foreign trade or investment. Floating rates, then, appear to provide a far more equitable distribution of the cost of exchange-risk insurance. Unfortunately, quantifying the resulting gain to the society would be as difficult as determining criteria for compensatory payments under fixed rates.

Weighing the Economic Costs and Benefits

There is no cut-and-dried answer to the question of whether, on economic grounds, floating exchange rates are superior to fixed rates. The answer will differ among countries, and perhaps even among periods in the same country's history. Attention should be drawn to two important factors affecting the answer for a particular country and time period: the "openness" of the economy, and the extent to which a country's desired rates of inflation and growth are in line with those prevailing in the rest of the world.

The openness of an economy will affect the macroeconomic costs of pegging the exchange rate, as indicated in the previous section of this essay: the more open the economy, the greater will be both Triffin's ratchet effect and the average level of frictional unemployment under floating exchange rates. On the other hand, no conclusion is possible regarding the effect of openness on the net efficiency benefits of pegged rates. Although in a general sense a highly open economy is "more dependent" on trade than a less open economy, in both cases marginal increases or reductions in trade affect those imports for which domestic substitutes are available and those exports the selling of which in alternative markets at home is only marginally more or less profitable than selling abroad. For this reason, the allocative effect in both cases is slight, and the external economies discussed earlier in this essay are bound to be of a similar magnitude in both types of economy.

Another, perhaps more crucial, factor affecting the desirability of floating rates, is the extent to which a country's "best" attainable set of rates of inflation, employment, and growth leads to a chronic tendency for the exchange rate to depreciate or appreciate. This in turn depends on the preferences of the society, the functional relationships among the three target variables, and, of course, whether the resulting rates of growth and inflation are higher or lower than in the rest of the world. In addition, the effect of "structural" and non-price factors on export growth will also play a part in determining whether a country's rates of growth and inflation are too high to sustain pegged exchange rates without sacrificing domestic macroeconomic goals.

During any extended period of time, there will be some countries whose desired rates of inflation and growth are naturally in line with the world as a whole; for these countries there may be little or no gain to be had from floating rates. At the same time, there will be other countries for which maintaining a pegged rate entails an intolerable sacrifice of domestic goals; for these countries the choice is between (1)

maintaining pegged rates with increasing difficulty until devaluation (or revaluation) is forced upon them, followed sooner or later by another period of maintaining the new rate with increasing difficulty, and so on, and (2) allowing the exchange rate to float. Finally, there will be some (perhaps many) countries for which extended periods of being in line with the rest of the world will alternate with other extended periods during which there is a chronic downward or upward pressure on the external value of the national currency; for these countries the optimal solution might be alternating periods of fixed and floating rates.

Optimum Currency Areas

The preceding analysis can be applied to the interesting topic of optimum currency areas. The question whether two regions should form a single currency area is almost equivalent to the question whether two regions, each with its own currency, should have a permanently fixed exchange rate between their currencies. The two questions are not quite equivalent, for there are at least two differences between a currency area and permanently fixed rates. First, although under permanently fixed exchange rates there can be little independence for national monetary and fiscal policies, some leeway is still possible: if the two national economic authorities cooperate, they can choose from among alternative sets of aggregate economic policies in each country that set of policies which represents the best possible compromise between the desired goals of the two countries; moreover, in case of temporary deficit, one of the countries can resort to temporary capital controls to avoid harmful interference with domestic policies (this would not be possible under a currency union); and, if a band of exchange-rate variation around the permanently fixed parity is permitted, some difference in money interest rates is also possible. Second, even if no exchange risk is present, there is still a small transactions cost attached to dealing in foreign exchange, which, of course, disappears when a currency union is formed.

For the purpose of this discussion, however, let us assume that the cases for and against permanently fixed exchange rates between two regions, each with its own currency, are tantamount to the cases for and against forming a currency union between the two regions. There are then two questions to consider: (1) Are fixed rates desirable when there is relatively little factor mobility between the two regions? and (2) Are fixed rates desirable when there is a relatively high degree of interregional factor mobility?

According to Robert Mundell, the answer to question (1) is generally "no" unless one of the regions is so small (and therefore open) that the

disadvantages of floating exchange rates would outweigh the advantages of a more independent monetary and fiscal policy. The chief disadvantages of floating rates for a small region are: (1) the thinness of the foreign-exchange market, and therefore the vulnerability of the latter to the machinations of individual speculators; (2) the sensitivity of the domestic price level to changes in import prices; and (3) the sheer cumbersomeness of the many foreign-exchange transactions necessary when most goods, and perhaps many services, are bought from and sold to other regions. The answer to question (2), however, is always "yes," Mundell argues, since all the advantages of fixed exchange rates are present without their chief disadvantage, an adjustment mechanism which forces countries to sacrifice domestic economic goals for the sake of external balance. With labor mobile between two regions, unemployment occurring in the region with a payments deficit and the inflationary pressures occurring in the region with a payments surplus would both be eliminated by the movement of labor from the deficit to the surplus region. However, Mundell stresses the point that this analysis is invalid unless labor is mobile *within* each of the regions, for, if not, it might turn out that the optimum currency areas would cut across our two original regions.

Unfortunately, Mundell's lucid analysis is not very relevant to actual economic conditions, at least to those in relatively advanced economies. In reality, the chief problems with labor mobility arise from barriers to *interindustrial* rather than *interregional* mobility. In other words, there are *no* regions where a very high degree of interindustrial mobility exists, except during times of extreme labor shortage, as in the wartime United States and, perhaps, postwar West Germany, when both interregional and interindustrial labor mobility increased as a result of the active efforts of employers to recruit and train additional labor. But in normal times the sort of interindustrial labor mobility that Mundell requires, namely the absorption in fully-employed industries of workers from industries with unemployment, is not a process one can be sure will occur except, perhaps, over a very long period of time. There are several reasons for this, the main one being the downward rigidity of money wages, which must fall for producers (in the short run) to be induced to hire and train additional labor—unless, of course, excess productive capacity exists under conditions of full employment of local labor. There are a number of other reasons for interindustrial labor immobility: in many occupations, for instance, entry is barred by the restrictive practices of unions or professional organizations; unemployed skilled workers may wait years, in hope of being rehired in their original occupation, before deciding to

undergo retraining; and unemployed unskilled workers may not know where to seek training, even if it is available.

As a consequence of limited interindustrial labor mobility, interregional factor mobility cannot be counted upon as an effective adjustment mechanism in the short or medium run. It would only be effective if the labor being released in the deficit region were of the same type (or types, in correct proportions) as that being demanded in the surplus region (assuming that any additional labor *is* being demanded there). Evidence of this is amply provided by the experience of the postwar United States, where large numbers of unskilled workers have moved from depressed regions to the thriving urban regions of the Northeast, Great Lakes, and West Coast. This migration, massive and painful as it has been, has succeeded neither in dampening the wage increases of skilled workers in the North nor in eliminating the private-account deficit position of states like West Virginia, Kentucky, Arkansas, and Mississippi. What advances have been made in the economic position of some of the Southern states are unconnected with the removal of unwanted workers; on the contrary, one of the chief factors attracting capital to the South, thereby alleviating the latter's payments deficit, has been the cheapness of its labor.

When considering, then, the criteria for optimum currency areas under these circumstances, it is not enough to call for greater efforts to make labor more mobile, both interindustrially and interregionally. We must, very substantially, deal with the world as it is. In addition, we must recognize the grave social difficulties resulting from attempts to move labor from one cultural and linguistic milieu to another for reasons of economic rationality. Just such movements, undertaken in the past, are responsible for most of the "racial" problems in the world today. From a social point of view, it is far better to move capital to labor than the opposite, but even if there are strong incentives to do so, created by government policy or by economic conditions themselves, the process involved is a very slow one, as, for example, the Italians have discovered in their attempts to industrialize the Mezzogiorno. So direct investment, too, cannot be relied upon as an effective interregional adjustment mechanism in the short or medium run.

We are left, then, with the same set of criteria for optimum currency areas that are applicable to the case of no factor mobility. First of all, there is the question of whether the desired compromise between full employment and price stability in each of the regions is compatible with fixed rates, taking into account the willingness of surplus regions to subsidize deficit regions, which willingness may exist if the deficit regions happen also to be economically backward and if, at the same time, a

modicum of political unity exists between the regions. The problem here is not only, as is so often implied in official discussions, whether different national policies can be "harmonized" so as to maintain external balance under fixed rates, but whether the "harmonization" does, or does not, involve serious and unnecessary sacrifices of national (or regional) economic goals. Second, there is the question of whether each region's economy is so open that (a) exchange-rate fluctuations, caused either by changes in demand in other regions or by capital movements, would result in a serious inflationary bias in the regional economy, as well as inducing wastefully frequent shifts among different sectors of the economy, or (b) the need to exchange domestic for foreign currency for a large proportion of sales and purchases of goods would impose a serious burden on the domestic economy. Finally, there are two considerations having to do with the *size*, as analytically distinct from the *openness*, of a region's economy: (a) the smaller the region, the thinner is its foreign-exchange market likely to be, and the more likely are disturbances under floating rates resulting from the activities of speculators with some monopoly power in the market; and (b) the smaller the region, the less likely are citizens to be willing to hold a domestic currency whose value vis-à-vis the currencies of much larger regions fluctuates frequently. These last considerations have to do not only with *ad absurdum* examples like Monaco or Peoria, but also with countries which presently have their own currency but in practice keep it pegged to the dollar, the pound, or the franc.

POLITICAL FACTORS

A comparison of different schemes to facilitate international payments adjustment would not be complete without some consideration of political factors. There are two ways in which political considerations enter into this comparison: first, in assessing the political *acceptability* of proposed reforms in the present international monetary system, or of a change in the entire system itself, and second, in assessing the political *workability* of a particular system. A system is acceptable if it can be, or has been, actually adopted by the major trading nations; it is workable if it neither breaks down, as a result of failure to resolve the international policy conflicts inherent in any international monetary system, nor requires, to avoid a breakdown, excessive sacrifices on the part of member nations. Economists are correct in disregarding (as they usually do) questions of political *acceptability*, hoping, perhaps, that their analyses will contribute to the toppling of the existing conventional wisdom; but it would be irresponsible for them to neglect the political *workability* of a proposed reform. It would be best if the discussion of political workability could

be left to the political scientists; unfortunately, the latter have thus far disdained to analyze the politics of the international monetary system. For this reason, the economist, when discussing international monetary relations, is forced to choose between one of two courses: (1) stepping beyond his own area of competence, and (2) employing either the assumption that the international monetary system is managed by a body of supranational technocrats, or whatever *ad hoc* assumptions regarding the political behavior of governments might occur to him or suit his purpose. I have chosen the first of these courses.

Cooperation and Breakdown in the International Monetary System

Let us remind ourselves of certain familiar generalities about international monetary politics:

(1) It is supposed to be in all countries' interests to avoid something called "international monetary chaos" or "a breakdown of the system."

(2) To date, a breakdown of the system has been (by and large) avoided in the postwar era by loans to deficit countries and by the creation of international liquidity, the latter occurring both haphazardly, by the accumulation of dollar reserves in central banks throughout the world, and—in the immediate future—systematically, by the creation of the IMF Special Drawing Rights.

(3) The "problem of adjustment," however, has not been thereby resolved, and its thorniness can be interpreted in political terms as a failure of the major countries to settle on methods for distributing the burden of adjustment in a mutually agreeable way—or, what amounts to much the same thing, on methods for "harmonizing" national economic policies.

These generalities, although a useful starting point in analyzing our present difficulties, do not carry us very far. The common end of international economic relations, avoiding a breakdown of the system, and the means to that end, "international monetary cooperation," are both terms with a variety of possible meanings. A breakdown of the system can mean (1) a halt or mild reversal of the postwar trend towards greater liberalization of international trade and payments, (2) a more serious reversal of this trend, or (3) the reduction of all international commerce to a system of intergovernmental barter. All western economists would agree that avoiding situation (3) is a goal of high, if not absolutely highest priority, but not all would agree that situations (1) or (2) would, under all circumstances, be unmitigated catastrophes. The breakdown of

the system, then, is a matter of degree, and the worse a threatened breakdown, the higher is the price national governments will be willing to pay to avoid it.

International monetary cooperation also bears different meanings, from occasional meetings of officials for exchanging views to deliberate and effective joint planning of national economic policies. National governments assess the benefits of such cooperation by the degree to which it enables the world economic community to avoid a "breakdown" of international commerce and, more particularly, by the harm thereby avoided for the national economy. Cooperation, however, also entails certain political and economic costs on the part of national governments.

The costs to a nation of international monetary cooperation are of several sorts. First, there may be obvious economic costs involved in adhering to the system, in terms of the sacrifice of domestic economic goals or damage to domestic export or import-competing industries (as when a surplus country permits a deficit country to devalue without retaliating). Second, there may in some instances be a partial sacrifice of foreign political goals involved in those cases where cooperation entails economic aid to a political rival or curtailing one's own country's foreign governmental expenditures. Third, there may be psychological or political costs in those instances where the system requires formal surrender of sovereignty (that is, a country's formal right to control its own public policies) to a supranational organization. Similarly, political costs are involved whenever the appearance has been given of domestic policies being dictated by foreign governments or financiers. Fourth, we may say more generally that it is in the nature of politics for statesmen to preserve as much as possible their future freedom of action; there are political costs involved in committing one's country to following rules or obligations applicable to future decisions. At the same time, however, statesmen always wish to know as much as possible about future conditions; uncertainty about the latter entails a psychological cost. Thus, *ceteris paribus*, participation in an international monetary system which minimizes these uncertainties will be less costly to the participants than participation in a system in which uncertainty is greater.

The costs of cooperation will, of course, differ among countries and circumstances. If the cost of cooperation is too great for a country at a particular time, it will prefer to take measures which, if often only in a minor and partial way, "break down" or diverge from the purposes and methods of the agreed-upon system. The frequency and seriousness of such divergences provide general criteria for evaluating the political workability of a system. An example of divergences from the *purposes* of the present system is a government combatting a payments deficit by

means of capital controls and import quotas (since the present system is intended to promote freedom of trade and payments). The more frequently and stringently such measures are taken, the less workable is the present system. A divergence from the *methods* of a system has taken place if, for example, under a system of freely floating exchange rates, under which governments have taken a Friedmanian oath to desist from any interference in the spot exchange market, governments nevertheless insist on interfering.

Factors Determining the Workability of an Exchange-Rate System

Before stating some general propositions regarding the workability of an exchange-rate system, it will be useful to review the several means by which such a system is controlled. Robert Dahl and Charles Lindblom have defined the "four central sociopolitical processes" as the price system, hierarchy (control by leaders), polyarchy (control of leaders), and bargaining (control among leaders). In the international monetary system, we can also distinguish four processes which are analogous to Dahl and Lindblom's: (1) the price system (in particular, the foreign-exchange market), (2) control by an autonomous international organization, (3) a set of rules binding on all participating nations, and (4) negotiations among national governments. These processes can be regarded as alternative means of resolving conflicts of national interest arising in international monetary relations.

Conflicts of interest notably arise over how to distribute the costs of eliminating or financing deficits in international payments. If this type of conflict is not resolved by cooperation, there is the danger of what Richard Cooper has called international policy competition, namely, the policy actions of two or more national governments aimed at achieving mutually incompatible ends. Such action is likely to lead to results undesired by all parties concerned: a further divergence from domestic economic goals than would have occurred if cooperation had taken place, a divergence from the purposes and methods of the international system, or a mixture of both. The less often excessive costs are placed on particular countries, the less often will they take actions diverging from the purposes and methods of the system. The more equally costs of cooperation are distributed among countries—for instance, the more equally the cost of balance-of-payments adjustment is divided between deficit and surplus countries—the less is the *chance* that excessive costs will be placed on a particular country. Therefore, the more equally the costs of cooperation are distributed, the better is the chance that the system will be maintained unimpaired.

There are several reasons why finding a commonly acceptable solution to adjustment problems is so difficult. In the first place, the cost to a country of any particular set of adjustment policies is greater in the eyes of that country's government than it is in the eyes of other governments; thus, it becomes virtually impossible to agree even in principle on what constitutes an "equal" or "equitable" distribution of costs. Furthermore, in some situations—for instance, when exchange rates have been permitted to remain seriously out of line for an extended period—it may be impossible to distribute the costs of adjustment in such a way that *no* country must suffer a serious degree of inflation, unemployment, or reduction of real income. But even when a solution could be found which would not place an unacceptable burden on any country, it is usually the case that a less-than-ideal solution is arrived at, owing to the tendency of powerful countries to use their power to their own advantage.

Under the present system, a country's power in international monetary relations is determined not only by its population, economic size, and military strength, but also—and sometimes more importantly—by its balance-of-payments position and the size of its stock of international reserves. A country with a large surplus in its balance of payments and plentiful reserves will sometimes be able to exert an influence in international monetary conflict out of all proportion with its national power measured in conventional terms (as, for instance, Germany in the crisis of November 1968). This being the case, there is the well-known tendency to solve adjustment problems by placing relatively light burdens on surplus countries and heavy ones on deficit countries. This tendency is mitigated solely by the common desire to preserve the system.

The desire to preserve the existing system naturally leads to seeking ways to avoid international economic conflict. This explains, among other things, why so much progress has been made in the area of international liquidity and emergency borrowing rights, and so little progress in finding more effective means to adjust international payments imbalances. The creation of international liquidity eliminates conflict by eliminating (or evading) the need for adjustment; forcing the issue on adjustment forces the inherent conflict over the distribution of the burden of adjustment out into the open.

The extent to which "harmonization" of national economic policies can take place is limited not only by the difficulties of resolving international conflicts of interest but by the limits to the effective control national governments actually have over their countries' economies, the veto power of national legislatures in democracies, and the short-run validity of agreements arrived at (owing to unforeseen events such as strikes, changes of governments, changes in public opinion, and so forth).

Moreover, nationalism is not dead. National independence, which means freedom to take whatever action one pleases within one's own borders without outside interference, is prized as highly (if not more) than full employment and a high rate of growth. The touchstone of national independence is national sovereignty, which is the formal control over the instruments of national policy. A great deal of international economic cooperation, particularly if carried on by the method of negotiations, is possible without a nation giving up one whit of its sovereignty. If a nation takes a particular course of action as a result of commitments arising from international negotiations, it is, of course, limiting its freedom of action at that time. But it is not limiting its freedom of action in the future, nor is its sovereignty affected. Careful thinking on these points is necessary in order to avoid jumping to the conclusion that the willingness of nations to cooperate implies a willingness to bind themselves in the future by a set of stringent rules or to give up to an autonomous international body the *right* to control the instruments of national economic policy. In this connection, it should be remarked that while a national government may relinquish control over a policy instrument that it has not controlled in the first place, it is very unlikely to relinquish control over a policy instrument which it now controls, or which it is capable of controlling if it wishes.

The willingness to cooperate, upon which the workability of a system depends, depends in turn upon the acceptability of the system relative to alternative systems. If all alternative systems are far less acceptable than the present one, the benefits of maintaining the latter—and, therefore, the costs nations are willing to pay to maintain it—are greater than if there is some alternative system which appears attractive.

In viewing the acceptability of a system, a government will be torn between the *safeguards* the system provides against disturbing actions by other governments in the future and the *freedom of future action* for one's own government that it allows. On the first count, a set of binding rules provides the best means of regulating the system; on the second count, international negotiations provide the best means of regulating the system; on both counts, a dim view will be taken of reliance on the price system for the elimination of imbalances in international payments. The workability of a set of rules (or of an autonomous international body) is customarily hampered by the lack of adequate sanctions against powerful nations for bypassing the rules (or the international body). The drawback of international negotiations is that they frequently end in stalemate.

Economic liberals will prefer the price system as a method of control; a powerful nation will prefer international negotiations—or, possibly,

an autonomous international organization, provided the powerful nation has assured itself a strong influence within the organization; a weak nation will prefer a set of rules—or an autonomous international organization, provided there are sufficient checks on the influence of the powerful nations within it. As far as political workability is concerned, the drawback of the price system as a method of control is that a government will not leave it alone when a change in prices has unpleasant effects on powerful groups within that government's constituency.

In considering the difficulty of achieving international monetary reform, economists often conclude that what holds up progress is the short-sightedness and prejudices of politicians and the international financial community. This may to some extent be correct, but one must distinguish between this reason for reform being prevented and another, perhaps more important, reason, namely the inherent conflict of interests involved. The costs, as well as the benefits, of international economic cooperation within the framework of alternative systems will differ among countries. (Some of these costs are "subjective," but this does not make them less real to the participants in the political game.) Thus, countries will inevitably disagree over the desirability of changing the international monetary system.

The Political Workability of Alternative Exchange-Rate Systems

We have now established some guidelines for evaluating the political workability of alternative exchange-rate systems. Let us start with the present one, followed by some of the leading alternatives that have been suggested.

The Adjustable Peg

One of the greatest strengths of the present system is its political *acceptability* relative to other systems. If statesmen and financiers were indifferent between maintaining the present system and trying another with some form of greater exchange-rate flexibility, it is unlikely that it would have survived as long as it has. Means for avoiding international policy conflict have been created, notably intergovernmental loan facilities and methods for increasing international liquidity, both of which permit deficit countries to avoid accepting intolerable burdens of adjustment, or (particularly in the case of the United States) to avoid devaluation, which would be intolerable to all other countries. There is the general belief among international economists that the conflict cannot be avoided, or "evaded," indefinitely and that sometime there must come the day of reckoning. Whether this is true or not depends on the difference between

the costs of bringing the conflict out into the open and the costs of avoiding the conflict. It is not clear why the first costs should necessarily be smaller than the second; judging from the history of the past twenty years, the opposite is considered to be the case by those in power. Of course, the conflict is occasionally settled (or partially so) by exchange-rate changes, deflation, or inflation in a particular country. British or French devaluations are permitted if it is felt that they are necessary for preserving the system. It is one of the weaknesses of the system that exchange-rate changes can occur only in the volatile atmosphere of crisis. On the other hand, effective means for dealing with short-term crises on an international basis have been developed, and, considering the importance apparently attached to preserving the adjustable-peg system in its present form, these means can be relied upon. Thus, to the extent that a major breakdown of the system has been avoided, and will presumably be avoided in the future, the present system is politically workable.

Against this must be weighed the higher levels of economic performance which might be possible with greater exchange-rate flexibility. A system with greater exchange-rate flexibility might result in a reduced ability of surplus countries to shift the burden of adjustment onto the deficit countries. To the extent that a breakdown of the system has thus far been avoided by placing excessive burdens of adjustment on certain countries, notably the United Kingdom, the present system has not proved workable.

Currency Union

The chief problem here is one of acceptability, not workability. If two or more fully independent and economically viable nations should voluntarily agree to merge their monetary authorities into one, then they would presumably be willing to accept the consequences of this move, for instance, the necessity of pursuing a single aggregate economic policy. To agree to such a union means, in effect, renouncing national sovereignty in an important area of policy in favor of a supranational sovereignty.

The existing examples of currency unions are either mini-countries using the currency of a dominant larger neighbor or former colonies submitting to continued monetary colonialism for reasons of economic advantage. A currency union between two monetarily independent and viable states, neither of which is willing to be in a subservient position to the other, would be possible only in the cases of complete political unification or, where this is not possible, the creation of a supranational economic authority. The latter development could occur in one of two ways: (a) the making of economic policy becomes entirely divorced from politics

and is left to a group of denationalized technocrats, or (b) the supranational authority is made up of representatives of the national governments. Alternative (a) is unlikely to be acceptable (under present conditions) to a still formally independent national government. Alternative (b), a form of international negotiation, may be very slow in coming to decisions.

Freely Floating Exchange Rates

For this system, the questions of acceptability and workability are intimately connected. The alternatives of managed floating rates, the crawling peg, or the adjustable peg are at least as politically acceptable as freely floating rates. Therefore, even if a government decides to permit the exchange rate to float without any official intervention in the spot exchange market, it will be strongly tempted to initiate such intervention whenever convenient—for example, to encourage exchange-rate depreciation or discourage appreciation whenever the domestic economy is sluggish. Advocates of floating exchange rates usually reply to this objection that in such cases what is called for is an expansionary monetary policy, which will not only have the desired domestic effects but will also, through inducing a capital outflow, affect the exchange rate in the desired direction. True as this may be, the temptation to intervene directly in the foreign-exchange market, rather than indirectly influence the exchange rate through monetary policy, will not disappear so easily. First of all, in those situations where unemployment is concentrated in the export industries, the government will wish to encourage the latter without making money cheaper for other sectors; in this case, exchange-rate depreciation without a fall in interest rates will be called for. Second, there is a limit to the frequency with which interest-rate changes can occur, while governments may frequently think it necessary to prevent sudden large changes in the exchange rate. Third, the effect of direct intervention may be better and more certainly known than the indirect effects of monetary policy. For all these reasons, it is very likely that governments will in fact intervene directly, at least on occasion. The system of freely floating exchange rates will then have become one of managed floating rates, whose difficulties are discussed below.

However, these remarks should not be taken as the last word on the desirability of freely floating exchange rates. The absence of political workability of this system takes the form of a probable transformation into another system, such as floating rates with government intervention, which may itself be preferable, at least on economic grounds, to the adjustable peg.

Floating Rates with Government Intervention

The chief weakness of this system, as compared to the adjustable peg, is that it may be associated with an intensification of international policy conflict. The adjustable-peg system provides each member nation with the assurance that its export and import-competing industries will not be exposed to frequent unforeseen shocks resulting from unilateral exchange-rate changes undertaken by foreign governments. Under a system of managed floating rates this assurance would be lacking. Although it may be overly pessimistic to believe that such a system would lead to competitive exchange-rate depreciations, there would still be the danger that the major national economic authorities, even when acting in good faith, would work at cross-purposes. The smaller countries would be likely to associate themselves in currency blocs with their chief trading partners, in order to insure themselves against sudden disruptions of their open economies. However, this would leave them with continued adjustment problems.

Of course, under managed floating rates the inherent conflict over the distribution of the burden of adjustment could, as under the present system, be evaded by the further creation of liquidity; but decisions on how much additional liquidity to create and how to distribute it would depend upon the degree of cooperation achieved in the joint determination of exchange rates. Since it would be utopian to suppose that all major trading nations would always see eye-to-eye on how exchange rates should move, there is no reason to suppose that international monetary conflict would be less under this system than under the adjustable peg. To the extent that governments tend to set upper and lower bounds to fluctuations in the external value of their currency, situations will arise under which surplus countries reluctant to have their currencies appreciate will be able to force deficit countries to allow their currencies to depreciate. To the extent that governments permit exchange rates to float freely, however, the burden of adjustment will tend to be distributed more equally than it is under the present system.

International monetary conflict under managed floating rates would be reduced somewhat if the U.S. Government would agree to desist entirely from intervention in the spot market, but such voluntary passivity is unlikely behavior on the part of a powerful nation.

The Crawling Peg

A system of managed floating rates might be made somewhat more stable by the imposition of rules limiting the extent of exchange-rate

changes. Under such a system, runaway waves of competitive depreciation—the nightmare of opponents of greater exchange-rate flexibility—could not occur. Nevertheless, the occasions for open international policy conflict could still be more frequent than under the present system. As under the looser system of managed floating rates, some governments might be tempted to engage in unwarranted depreciations of their currencies, either to build up reserves or to increase the competitiveness of domestic industries in the world markets. In particular, under this system, as compared with managed floating rates, smaller countries would feel more inclined to vary the value of their currencies vis-à-vis their major trading partners. For this reason, the crawling peg would be particularly advantageous for smaller, more open economies.

The Widened Band

A widened band of exchange-rate fluctuation around either a fixed or crawling peg would reduce the degree to which it would be necessary to employ domestic economic policies for balance-of-payments purposes and, therefore, the degree of cooperation necessary to avoid international policy competition or a breakdown of the international monetary system. It would, as in the case of managed floating rates, spread the costs of adjustment more equally among deficit and surplus countries, thus reducing the power of the latter to shift the burden of adjustment to the former. However, as with managed floating rates, there would be the question whether treasuries and central banks would actually permit the exchange rate to fluctuate over the full width of the band. In some countries, central bankers are unwilling to permit fluctuation over the full width of the existing narrow band for fear of thereby encouraging destabilizing speculation. It should be noted, in addition, that the wider band does not solve the problem of achieving the larger exchange-rate adjustments that are necessary from time to time. For short-run problems, however, by providing an element of flexibility in the system which reduces the need for explicit intergovernmental cooperation, the widened band could reduce international monetary conflict.

Toward a More Workable Exchange-Rate System

As we have used the term system here, the breakdown of a system can be regarded as its transformation into another type of system. Thus, it is not enough to evaluate the political workability of a system by the probability that it will break down, but also by the economic desirability and political viability of the system which is likely to replace it.

In this connection, one is tempted to generalize upon international monetary experience from 1914 to the early 1950's. At the beginning of this period, the breakdown of a system of pegged rates was manifested in two ways: first, by the imposition of severe restrictions on trade and capital movements and, second, after World War I, by floating exchange rates among the major European currencies and between many major European currencies and the dollar. For several reasons—perhaps among them mistaken opinions and obsolete traditions—floating rates were deemed unsatisfactory, and efforts were made to reinstitute pegged rates. As we all know, the success of these efforts was short-lived. The interwar pegged-rate system, whose life-span cannot be counted as more than eight years (the length of time the pound sterling was on the gold standard) collapsed in 1933. As in the period during and after World War I, the breakdown was manifested both by trade and exchange controls, on the one hand, and greater exchange-rate flexibility, on the other. The main difference between the early 1920's and the 1930's was that, while the former period was marked by severe price inflation, the latter was characterized by deflation. Again, however, the governments shied away from freely floating rates, preferring to keep exchange-rate changes under official control. (In the earlier period, however, there appear to have been instances when governments were incapable of controlling the course of the foreign-exchange market, particularly in the presence of severe domestic monetary instability.) The haphazard changes in exchange rates which characterized the 1930's convinced officials of the necessity for international coordination of exchange-rate policies, with severe limitations on the possibility of unilateral action by any single country. These considerations led to the present adjustable-peg system, under which, *de jure* if not *de facto*, all major changes in exchange rates must first be approved by the IMF.

What is to be concluded from this historical experience? Certainly not, as Ragnar Nurkse has asserted, that freely floating exchange rates would lead to chaos, since it is fairly certain that freely floating exchange rates were never given the chance to exist, except in certain instances of runaway domestic inflation, in the presence of which no international monetary system would have worked adequately. What is significant is that governments exhibited a strong propensity to interfere in the foreign-exchange market even when no official pegged rate existed, and this development led in turn to efforts to stabilize exchange rates on the basis of international cooperation. Since the behavior of governments is determined, among other things, by currently held economic doctrines, and accepted economic doctrines have changed substantially since before World War II, it would be unjustified to assume that govern-

ments would necessarily repeat their earlier behavior. For one thing, a system of greater exchange-rate flexibility which has arisen in the wake of the collapse of a fixed-exchange-rate system is bound to be marked by greater international anarchy than when such a system has come into being as a result of a deliberately planned and negotiated international agreement. Still, the primacy of the national interest when specific difficulties arise necessitates that any greater discretion for national management of exchange rates be limited and conditioned by new rules of the game, such as those suggested by proponents of the crawling peg or one of its variants.

We must face the fact that the nation-state as the unit of economic policy-making is still with us and promises to remain so for a very long time to come. There is an idea current that international policy conflict under a system of greater exchange-rate flexibility could and should be resolved by placing the management of all exchange rates under an international authority. This idea is a first cousin to the notion that the way to bring about world peace is for all governments to give up their armies (other than domestic police forces) and to relegate to an international authority all international military activities. Just as governments would be unwilling to give up ultimate control over their own armies, they would also be unwilling to give up ultimate control over their exchange rates to an international body—or, for that matter, to the market place. At the same time, as mentioned earlier, there are reasons for being sceptical about the workability of informal international cooperation under a system of managed floating rates. Hence, the conclusions that freely floating rates and managed floating rates are likely to be unstable systems, in the sense of tending to lead to transformation into other systems, and that the best practical hope for proponents of greater exchange-rate flexibility is in a system, like the crawling peg, which retains to a considerable degree the safeguards of the adjustable-peg system. However, the adjustable-peg system may be politically superior to all its alternatives because of the scope it gives for avoiding the need for international policy conflict.

CONCLUSION: WEIGHING ECONOMIC AND POLITICAL FACTORS

The economic costs and benefits discussed earlier in this essay are measurable; political workability is not. Weighing economic and political factors against each other is ultimately a subjective matter. We would certainly expect that economists would give economic factors relatively more weight than would politicians: thus, it is not surprising economists and politicians frequently disagree about exchange-rate

reform. Economists would be wrong, however, to conclude from this that politicians are merely being narrow-minded. That political factors are unquantifiable does not mean that they are figments of the imagination. Additional international economic conflict can increase international political conflict. The decades preceding the First World War provide the best-known example of this. More recently, both the Atlantic and the East European alliances have been weakened by economic rivalries and disagreements over international economic arrangements. It is, therefore, not irrational to wish to avoid unnecessary international economic conflict, although it is the duty of economists to remind politicians of the economic cost of doing so.

One must end, then, on a somewhat unsatisfactory note. The best exchange-rate system from an economic point of view is probably one with greater exchange-rate flexibility, and a greater reliance on the market, than is the best system from a political point of view. Since it is the politicians, not the economists, who have the last say in these matters, the result is likely to be unsatisfactory to economists—unless, by some twin revolution in economic institutions, central bankers and treasury officials were to be made less responsive to political pressures and more responsive to (the sometimes contradictory) wishes of academic economists. As regards the latter, the chief obstacle to be overcome by advocates of greater exchange-rate flexibility is that they are trying to convince a group of cautious gentlemen with responsibilities to bear that an untried system, with its own difficulties of management for the economic authorities, should be permitted to replace a system whose shortcomings, although undeniably present, are at least known and can be combatted with at least fairly successful methods whose development has come about through a painful process of trial and error. As any economic theorist knows, it is not necessarily irrational to prefer something certain to an alternative probably better but possibly worse. The best that proponents of greater exchange-rate flexibility can hope to do is (1) to specify as concretely as possible the magnitude of improvement in economic performance resulting from their scheme and (2) to specify safeguards in their schemes, such as those contained in Sir Roy Harrod's or John Williamson's crawling-peg schemes, which lower the probability that their proposed system will result in those difficulties so feared by the financial and bureaucratic establishment. Pursuing the argument along these lines, economists may be justified in adhering to Keynes' faith that those in power eventually succumb to "the gradual encroachment of ideas."

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