ESSAYS IN INTERNATIONAL FINANCE

No. 109, April 1975

RULES FOR A FLOATING-RATE REGIME

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AND

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INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the one hundred and ninth number in the series ESSAYS IN INTERNATIONAL FINANCE, *published from time to time by the International Finance Section of the Department of Economics of Princeton University.*

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International Finance Section

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Library of Congress Cataloging in Publication Data

Mikesell, Raymond Frech.
Rules for a floating-rate regime.

(Essays in international finance; no. 109)
Bibliography: p.
1. Foreign exchange problem. I. Goldstein, Henry N., joint author. II. Title. III. Series: Princeton University. International Finance Section. Essays in international finance; no. 109.
HG136.P7 no. 109 [HG3821] 332s [332.4'5] 75-8508
ISSN 0071-142X

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

Rules for a Floating-Rate Regime

Prior to August 1971, only a handful of economists gave serious consideration to a general system of floating rates. To central bankers and finance ministers, as well as to most commercial bankers, traders, and investors, such a system was regarded as incompatible with the maintenance and expansion of world trade and investment. But the experience with relatively free floating rates since March 1973 has shown that a general system of floating rates does not mean world financial chaos, and since then the idea of a more or less permanent system of floating rates has gained respectability, at least as a second-best alternative. Although the leaders of the international financial community cherish the hope of a return to some kind of a par-value system, and the representatives of the members of the International Monetary Fund have worked diligently over the last couple of years to plan a new monetary system based on the principle of stable relationships among the world's major currencies while avoiding the rigidities of the Bretton Woods par-value system, it is generally believed that the present fluctuating-exchange-rate regime is likely to persist for some time in the future. This was recognized in the final report of the Committee of Twenty (C-20), *Outline of Reform with Accompanying Annexes*, June 1974 (hereafter referred to as the *Outline of Reform*), in which it was recommended that certain guidelines for floating exchange rates should be put into operation during an interim period pending the establishment of a new exchange regime "based on stable but adjustable par values."[1] The *Outline of Reform* was submitted to the Board of Governors of the IMF in September 1974, and the Board of Governors has endorsed C-20's recommendations to the IMF and its members regarding guidelines for the management of floating exchange rates.

This essay examines the desirability of establishing a set of rules for managing floating exchange rates and the nature and rationale for alternative rules. Following this discussion, we shall examine critically the guidelines for managing floating exchange rates set forth in the *Outline of Reform*. It is not our intention to debate the issue of floating versus fixed

[1] The Committee of Twenty (formally "The Committee on Reform of the International Monetary System and Related Issues") was established by the Executive Directors of the International Monetary Fund in September 1972. For the text of the *Outline of Reform*, see *IMF Survey Outline of Reform Supplement* (June 17, 1974), and for the texts of the resolutions of the Board of Governors of the IMF relating to the recommendations contained in the *Outline of Reform*, see *IMF Survey 1974 Annual Meetings Issue Supplement* (Oct. 14, 1974).

rates, although inevitably some of the traditional arguments advanced in that debate will enter into our analysis.

Why Rules for Floating Exchange Rates Are Regarded as Necessary

Conceptually we may recognize two extreme kinds of floating-rate regimes: (1) a *pure* floating rate determined wholly by market forces with no market intervention by the national monetary authorities; and (2) a rate that is permitted to change in a manner completely predetermined and managed by constant intervention by the authorities. A pure floating rate is usually regarded as impractical except by a few economists, while a fully managed rate that is wholly insulated from market forces is tantamount to a continuously adjusted parity. Between these two extremes there is a wide spectrum of arrangements involving varying degrees of market influence and of market intervention reflecting government policies and management practices. The motivation for the formulation of international guidelines for managing floating exchange rates arises from two concerns. The first is that particular governments may intervene in the market for their currencies in a manner inimical to the interests of other countries. If this were the only concern, any consideration of rules or guidelines might be confined to eliminating official intervention entirely or restricting it to whatever limits could be agreed upon. But there is also the concern that a general pure float, or even individual pure floats, will lead to a nonoptimal pattern of exchange rates over time; this implies that official intervention is desirable, even if it were not inevitable. Indeed, some seem to suggest that a pure float might constitute "competitive exchange depreciation." Both of these concerns—about the consequences of deliberate official intervention in the exchange market, and about the consequences of failure to intervene in the exchange market—are reflected in the guidelines for floating rates contained in the *Outline of Reform*, as well as in communiqués issued by the Finance Ministers of the Group of Ten.[2]

There are several reasons why a government may engage in official intervention. First, it may want to protect or strengthen the national trade balance by preventing a basic-balance surplus or short-term capital inflow from causing an appreciation of its currency. Second, it may want to use reserve assets that it regards as excessive to acquire real resources. Third, it may want to use its reserves, or to borrow foreign exchange from the

[2] For example, in March 1973 the Finance Ministers of the Group of Ten agreed to limit official intervention in the exchange market to the degree necessary to facilitate the maintenance of orderly conditions, but to avoid massive intervention of the kind that had led to the huge accumulation of official dollar holdings (see Coombs, 1973, p. 215).

IMF or other sources, rather than permit its currency to depreciate in response to a deficit deemed to be temporary. Fourth, it may want to intervene because it believes that an appreciation of its currency would be incompatible with efforts to increase investment and employment by means of monetary expansion. Fifth, countries that have established joint floats and are moving toward monetary integration need to intervene in the market to maintain their exchange rates against currencies of other members of the joint float. Finally, financial officials of leading Western countries favor cooperative action by means of coordinated intervention in the exchange markets to cope with large capital movements generated by political and economic shocks or with disruptive shifts in trade balances such as those caused by the recent tripling of petroleum prices.

Accordingly, it is clear that the leading IMF members have an interest in agreeing on rules or guidelines for official intervention in order to avoid conflict, on the one hand, and to coordinate their actions in the pursuit of common objectives, on the other. Some of the guidelines put forward by C-20 in the *Outline of Reform* are positive; others are negative in that they rule out official intervention that would tend to harm the interests of other countries. The C-20 guidelines also include collateral rules relating to controls on trade and capital movements and to the choice of intervention currencies.

Alternative Rules for Official Market Intervention

In the light of the various motivations for official intervention just enumerated, let us examine several alternative guidelines that have been suggested. These include (1) no official intervention, (2) neutral intervention to moderate exchange-rate fluctuations, (3) intervention to offset the effects of political and economic "shocks," (4) intervention to offset the effects of nonrecurring events having a serious but temporary impact on the payments balances, (5) intervention to offset seasonal and cyclical movements in the trade balance, (6) extensive intervention to maintain exchange rates at levels judged to be consistent with long-run basic balance, (7) intervention to adjust the volume or composition of official reserve assets, and (8) intervention to maintain joint floats or pegged currencies.

Any effective rules for floating exchange rates to be established and monitored by an international organization such as the IMF must provide for objective measures of performance. General principles to be interpreted and applied by the monetary authorities of individual countries as their particular judgments dictate are unlikely to prove satisfactory. Depending upon the nature of the rule, there are three possible objective indicators: First, there is the change in official reserves, however

defined. (In addition to the change in official reserves, a nation's *stock* of reserves may be employed as one of the performance criteria.) Second, a range may be established within which exchange rates are expected to be maintained over a given period of time or under certain specified conditions. Third, there may be a specifically defined accounting balance, such as the basic balance. Conceivably, more than one of these indicators could be combined in administering a set of rules for floating exchange rates. For example, the permitted range of exchange fluctuations might be adjusted in response to a change in official reserves or to a change in the basic balance.

1. No official intervention. Although we have already ruled out the no-intervention rule as a policy alternative that governments will in fact accept, the arguments for such a rule should still be considered. Floating-rate purists have long advocated a system in which monetary authorities in each participating country commit themselves to a complete avoidance of official sales or purchases in the exchange market undertaken for the purpose of influencing the rate for their own national currency. (Government nonmonetary international transactions, for example, purchases and sales of state enterprises or government purchases or sales of military goods, would take place in the private or nonofficial exchange market and not with the monetary authorities.) Such a system, they contend, would encourage a maximum of stabilizing private speculation, since private transactors would no longer have to anticipate the scale and scope of official intervention but would be guided solely by their assessment of the probable impact on the exchange rate of changes in fundamental economic conditions.

In a free market, the rate will be determined by a balance of bullish and bearish sentiment. As sentiment changes in response to an ever-changing stream of new information, so will the exchange rate. Supporters of pure floating rates argue that if the "fundamentals" remain stable so will the exchange rate, but if they vary sharply (as with an unanticipated tripling of petroleum prices), the exchange rate will follow suit. Under both conditions, the changes in question will be desirable, since they will stimulate shifts in resource allocation, in consumption patterns, and in investment flows that promote overall economic efficiency.

A nonintervention rule has the further virtue of permitting easy policing by the participating member countries. If a country violates the non-intervention agreement, its official reserves will tend to rise or fall accordingly. (Within a given reporting period, the authorities might make offsetting purchases and sales that would not be detected from the reported end-of-period reserve figures. If the reporting periods are frequent,

however, such violations would have negligible effects on the prevailing pattern of rates.) Assuming that participating countries do not falsify their reserve holdings and do not engage in secret reserve swaps with other countries, the general extent of official intervention will be readily available information.

On theoretical grounds, those favoring rules providing for some form of intervention must answer the arguments of the floating-rate purists.[3] Some of the counterarguments favoring official intervention in a floating-rate system border on those advanced for a fixed parity regime; others emphasize the destabilizing activities of speculators under a pure floating-rate system; and still others contend that completely uncontrolled rates will give rise to exchange-rate movements that serve no economic purpose and would prove harmful to world trade and orderly balance-of-payments adjustment.

2. Neutral intervention to moderate exchange-rate fluctuations. Governments desiring to moderate exchange-rate fluctuations without interfering with long-run trends might undertake moderate official interventions that on balance would be neutral over relatively short periods of time. The appropriate rules relating to this purpose should limit the volume of intervention in either direction within a given period, say a month. In addition, monetary authorities might be required to restore their original reserve position within a reasonable period of time or at least move strongly in that direction. (If monetary authorities were required to restore fully their original reserve position within a fixed period, speculators would on occasion know in advance the exchange operations of the monetary authorities.) Alternatively, the limitation on the magnitude of net intervention within a given month might be supplemented with a rule that net reserve changes in a given direction could not persist for more than three consecutive months, except when reserve levels were believed to be excessive or deficient. The monthly ceiling would necessarily differ among countries in accordance with the magnitude of their external transactions. During a given month, for example, Germany's reserves would be permitted to vary in absolute terms by more than Sweden's. The maximum monthly change in reserves should be proportional to the estimated volume of the country's external transactions, not to the volume of its reserves, since countries have inherited levels of reserves that bear little relation to the normal turnover in their respective exchange markets. The United Kingdom's external transactions are comparable in size to

[3] For a systematic description and evaluation of proposals for exchange-rate flexibility, see Machlup (1973) and Marris (1970).

Germany's; yet Britain's gross reserves are only one-fifth as large as those of Germany.

The rationale for a policy of neutral intervention is that the monetary authorities can improve the operation of the exchange market by intervening to smooth out irregularities in the movement of exchange rates caused by random and reversible factors, but that such intervention need not trap them into prolonged efforts to counter a change in the market's underlying trend. A policy of neutral intervention appears to have been successfully pursued by Canada during most of the 1950s. The Canadian authorities frequently intervened on both sides of the market, but the net monthly and quarterly changes in their reserve position were quite small. The Canadian authorities' role during this period is described by Plumptre (1970, p. 5) as follows:

> The authorities stood ready, at any time, to "make a market" on either side of the existing rate. They formed no opinion about where the market ought to go, or even as to where it was in fact going to go. The only opinion they held and on which they acted was that the market ought not to move sharply in either direction at any time. In giving effect to this opinion they may have lessened the likelihood of self-aggravating speculative movements of the rate. Further, they did establish that it is possible for an authority to "tend" a floating exchange rate without engaging in battles with the private market and without provoking market speculation about the nature and intentions of their own dealings.

3. Intervention to offset the effects of political and economic "shocks." Political or economic developments that threaten to weaken a country's competitive position temporarily will typically stimulate short-term capital outflows. Central bankers may want to offset or to moderate the effects of these flows on the exchange rate, since these events may have little fundamental significance for the basic balance. After a time the short-term capital outflow may be reversed, but not necessarily by the amount of the initial capital outflow. Such developments have been a principal motivation for market intervention by the Federal Reserve authorities since March 1973, largely financed by the activation of swap credit lines. Foreign currencies were sold against the dollar in response to a series of rather superficial events tending to weaken the dollar, but when the dollar strengthened in the fall of 1973, these transactions were reversed and the obligations under the swap credits liquidated.[4] Apparently most,

[4] It is interesting to observe that the great bulk of speculatively induced outflows from the dollar from the end of 1969 through the first quarter of 1973 have never been reversed. Over this thirteen-quarter period, net recorded private capital outflows from the United States, plus errors and omissions, totaled $51 billion and accounted for most of the growth in the so-called "dollar overhang" at foreign central banks. It seems safe to assume that at least $30 billion of this sum comprised capital

if not all, of the Federal Reserve initiatives were preceded by consultations with the countries whose currencies were involved. The Bank of England similarly intervened from time to time in response to speculative pressures against the pound sterling. In most cases, intervention was at the initiative of the countries whose currencies were under downward pressure. Surplus countries such as Germany and the Netherlands tended to take other measures, including formal revaluation and internal monetary actions.

We believe this experience suggests some possible rules for intervention to offset political and economic shocks. First, the initiative should be taken by the country whose currency is under downward pressure. This would avoid the charge that the recipients of speculative capital were seeking to maintain a market advantage by preventing an appreciation of their currencies. Second, there might be a limitation on the amount and duration of the support but, unlike the case of neutral intervention to moderate exchange-rate fluctuations described in paragraph 2 above, the intervening country should not be required to reverse its reserve position. Third, there might be a preconsultation requirement for intervention. This approach implies a built-in limitation on the amount of intervention arising from the availability of the country's reserves and access to foreign credits.

4. Intervention to offset the effects of nonrecurring events having a serious but temporary impact on the payments balances. A nonrecurring event, such as a natural disaster, a prolonged strike, a major crop failure, or massive interruption of supplies of fuel or raw materials, may in the absence of official intervention result in a sharp fall in a country's exchange rate to a level below that believed to be consistent with long-run basic-balance equilibrium. It may be argued, therefore, that the rules should permit official intervention in support of the exchange rate in such cases. But there is a danger that a "nonrecurring event" will have significant implications for the long-run equilibrium rate. Take, for example, the British situation in the winter of 1973, when output and exports were reduced by shortages of coal and power because of a prolonged miners' strike. Imports were sustained by the strong demand for "emergency" imports of fuel and other items, with consequent downward pressure on sterling in the exchange market. But sterling's longer-run prospects also seemed bleak. At the time, employment and output were

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transfers motivated mainly by anticipated exchange-rate changes. It is puzzling that most of these outflows were not reversed following the dramatic improvement in the U.S. current account in the first half of 1973 and before the huge rise in oil prices.

expected to return to normal levels, but only after wage settlements that were likely to promote a further round of cost-push inflation in Britain, accompanied by a decline in the equilibrium exchange rate for the pound. Under these circumstances, intervention to support the pound in the face of a nonrecurring event would have meant supporting the sterling rate at an untenable level. This example suggests that the rules should permit moderate intervention limited to some specified ceiling figure within a given month and for a limited number of months, along the lines suggested in paragraph 2 above. However, in such cases the country should not be required to reverse its reserve position within a given period of time.

5. Intervention to offset seasonal and cyclical movements in the trade balance. The original IMF Articles of Agreement specifically recognized that seasonal or cyclical movements in the trade balance justified use of the Fund's resources, if required, for exchange-rate stabilization. But should these periodic developments constitute a legitimate exception to the nonintervention principle in formulating rules for a floating-rate system?

Seasonal movements in the trade balance are usually anticipated by the exchange market and should produce no more than a ripple in the exchange rate. Cyclical movements, on the other hand, are of uncertain duration, and efforts by large industrial countries to offset their effects on exchange rates would constrain the equilibrating function of a flexible-rate system on the international economy. Such practices by one or more large countries could seriously limit exchange-rate movements in the currencies of other countries and hence impair the operation of the adjustment mechanism. Thus, if countries A, B, and C prevented their currencies from appreciating during a recession, as would occur if the income effects on imports outweighed the income effects on capital flows, they might prevent the freely floating currencies of countries D, E, and F from depreciating during a boom or in the face of other factors adversely affecting their basic balance. Consequently, we believe that the rules should not permit official intervention to finance cyclical movements in the trade balance.

6. Extensive intervention to maintain rates consistent with long-run basic balance. A far more liberal rule would be to permit unlimited intervention so long as the exchange rate was deemed by a country's monetary authorities to be compatible with long-term basic balance. One argument for substituting the judgment of the monetary authorities for that of the market is the existence of the J-curve phenomenon. The J-curve

refers to the fact that the immediate effect of a currency depreciation may be to worsen the trade balance, while the immediate effect of a revaluation may be to improve the trade balance. (The reason is that the devaluing country receives less foreign currency for its exports because the short-run demand for its exports tends to be inelastic, while paying out nearly the same amount of foreign currency for its imports because of the short-run inelasticity of import demand.) Thus it has been argued that a change in the free-market exchange rate may lead to exchange instability because of a short-run perverse effect on the trade balance. The J-curve argument for extensive intervention fails, however, to take into account the stabilizing operations of private speculators. Assume that a country with a floating exchange rate develops a deficit in its basic balance, with a consequent depreciation of its currency. If there is a lag in the adjustment of export and import volumes to the change in the exchange rate, the basic balance would tend initially to deteriorate still further, giving rise to a condition of static exchange-market instability. But such instability would be avoided if speculators made a reasonable assessment of the long-run equilibrium rate and behaved accordingly. Their actions would constrain the exchange rate within a narrow range containing the long-run equilibrium rate, and net capital inflows would offset any short-term weakening in the current account occasioned by the lag in adjustment. The case for intervention would be strong only if it is assumed that speculators do not act in response to a proper assessment of the long-run equilibrium rate but allow—and perhaps even encourage—the currency to depreciate well below this level. It has been suggested that official intervention to permit a slow adjustment of the rate to the equilibrium level might avoid this result.[5]

The argument for official intervention in the situation described above hinges on whether the market or the monetary authorities are likely to do a better job of estimating the long-run equilibrium rate. We do not believe that past experience weighs heavily in favor of the monetary authorities, even when they are free from political influences. Moreover, neither the existence of an initially perverse reaction of the trade balance to a change in the exchange rate nor the length of the period of such a perverse reaction has been well established,[6] although there is considerable evidence that the full response of the trade balance to a change in

[5] For a mathematical analysis of this problem and the conditions for stability in the presence of lags, see Britton (1970). Britton concludes that "the slower the adjustment of the rate, the more probable would be the stability of the system." This conclusion seems, however, to ignore the feedback effects of delayed rate movements on speculative capital flows.

[6] For a good discussion of this problem, including a review of the literature, see Magee (1973).

the exchange rate may require several years (see Junz and Rhomberg, 1973).

7. Intervention to adjust the volume or composition of official reserve assets. Many countries have accumulated large amounts of official reserves over the past several years, largely in the form of dollars. Until recently, this dollar overhang was judged—at least by some observers—to pose a significant threat to the smooth operation of the international economic system (see Kenen, 1973). Clearly, many of these holdings were deemed excessive by their owners. And if large amounts of dollars had been dumped on the exchange market by foreign central banks, it might well have had a disturbing effect on exchange rates and the pattern of trade.

This threat seems to have disappeared. The recent rise in oil prices promises to make the current account of almost every developed country show a deficit for at least the next two or three years. As these deficits materialize, some central banks will find it expedient to sell dollars from their official holdings, and these dollars will be accumulated directly or indirectly by the petroleum-exporting countries. They will presumably invest these dollars in a variety of ways—in the Eurodollar market, in liquid dollar claims on U.S. residents, in gold and other commodities, and in various longer-term portfolio investments and direct investments denominated in various currencies.

In the light of their desire to soften the real terms-of-trade impact of the petroleum price increases, a simple rule prohibiting the major developed countries from drawing down their reserves seems both unacceptable and unwarranted. But there might be a rule that reserves could not be drawn down or increased by more than a certain amount each year or each quarter. The rule for neutral intervention suggested above, whereby a country would be required to restore its initial reserve position every six months, might be modified so as to permit the original position to be adjusted each period by a specified percentage of initially "excessive" or initially "deficient" reserves.

There is also the problem of changes in the composition of official reserves. Countries could substantially affect the exchange value of a reserve currency by selling that currency to acquire other reserve currencies. Such actions would also violate the principle of nonintervention in a system of freely floating rates.

These considerations suggest that the entire problem of excess reserve holdings may require an international agreement regarding their disposition. The problem seems too complex to be dealt with by a few simple rules.

8. Intervention to maintain joint floats or pegged currencies. Some members of the European Community have entered into arrangements for maintaining the exchange value of their currencies in terms of one another within a given range while permitting their currencies as a group to float without limit vis-à-vis other currencies. In addition, certain countries have elected to maintain the value of their currencies in a more or less fixed relationship to another currency by means of unilateral action, that is, without obligation on the part of the monetary authorities of the other country. Thus, some countries have from time to time pegged their currencies to sterling while others have pegged their currencies to the dollar or the French franc. Since such arrangements require official intervention, it is appropriate to consider possible rules to govern them.

If the exchange relationships among the jointly floating currencies are maintained through intervention involving only the currencies in the joint float, the net effects on the exchange values of third currencies will be neutral. Thus, if the Deutsche mark is strong and the French franc is weak, support of the franc by means of mark sales financed by swap credits from the Bundesbank will also support the exchange value of the franc in terms of dollars and sterling. However, the sale of marks for francs by the Bank of France would tend to cause the mark to depreciate in terms of the dollar and the pound sterling so that there would be no net support for the floating currencies as a group. If the Bank of France sought to maintain the value of the franc in terms of the other EC currencies by selling dollars from its reserves, however, there would be net support for the currencies of the joint float. Alternatively, if the initiative for maintaining exchange rates among the EC currencies were taken by Germany through the sale of marks against dollars, the currencies of the joint float would depreciate vis-à-vis the dollar. If the two actions were combined, with the Bundesbank selling marks for dollars and the Bank of France selling dollars for francs, the effects on the exchange rate between the dollar and the currencies of the joint float as a group would again be neutral if the interventions were of equal magnitude. Thus a joint float will have a neutral effect on third currencies so long as the combined reserve holdings of the participating countries remain unchanged.

Where one country desires to peg its currency to another by means of unilateral intervention, no serious problem will exist if one of the currencies is a minor currency. As a practical matter, a small country that has a close relationship with a metropolitan country should be permitted to peg its currency to the metropolitan currency. Thus Ireland should be permitted to peg its currency to the pound sterling, Mexico to the U.S.

dollar, and Denmark to the Deutsche mark. On the other hand, a large trading country such as Japan should not be allowed to peg its currency to the dollar if this action would involve increases or decreases in Japanese official reserves beyond the limits provided by the general rules established for a floating-rate system. (The dividing line between "large countries" and "small countries" is obviously arbitrary. But it seems reasonable to believe that a meaningful division could be agreed upon.)

Some Technical Problems in a Floating-Rate System

The intervention currency. The breakdown of the Bretton Woods system in August 1971 may have weakened the role of the dollar as an international standard of value and intervention currency, but that role has not been destroyed. Indeed, the growing strength of the dollar since October 1973, together with the failure of the EC to achieve and maintain a joint float that would encompass all the major EC currencies, has strengthened the international role of the dollar.[7] Under a pure floating-rate system or under a system in which all the major countries reverse any net change in reserve assets within a reasonably short period, the intervention role of the dollar would not hamper its ability to float freely. But if there were no rules or if extensive net intervention were sanctioned, this ability might be substantially impaired.

The problem might be resolved by having the monetary authorities engaging in official intervention buy or sell several foreign currencies in amounts proportional to the relative importance of basic transactions between the intervening country and the countries whose currencies are employed. The feasibility of multiple-currency intervention has been explored by C-20 in connection with the establishment of a symmetrical par-value system.[8] If monetary authorities do not possess an inventory of the requisite major currencies for use in official intervention, they can obtain them under swap credit lines or from the IMF. If monetary authorities engage in multiple-currency intervention, they might also use the effective exchange rate for their currency rather than the dollar exchange value as the standard for smoothing exchange-rate fluctuations.

Under multiple-currency intervention, the monetary authorities of one country might buy or sell the currency of another country at a time when the latter was seeking to stabilize its currency's effective exchange rate; thus the actions of the two countries might be mutually frustrating. Since a country is more likely to be averse to having its currency appreciated

[7] For a discussion of the significance of the intervention function of the dollar, see Mikesell and Furth (1974).

[8] See *Outline of Reform*, Annex 3, "Exchange Margins and Intervention," and Annex 4C, "The Choice of Intervention Currency and Settlement."

than depreciated as a consequence of foreign official intervention, a rule might be adopted whereby the authorities of one country would not accumulate the currency of another country beyond a specified limit without the express permission of the latter. Once a currency had been accumulated, however, it could be sold freely. Such a rule would limit the extent to which the dollar or any other currency could appreciate as a consequence of accumulation by monetary authorities.

An alternative to multiple-currency intervention by nondollar countries would be multiple-currency intervention by the United States. If the U.S. authorities want the dollar to float freely, they must offset all changes in the official reserve-transactions position of the United States, that is, U.S. official reserves minus foreign official liquid dollar holdings. Thus, if foreign monetary authorities increased (decreased) their holdings of dollars, the U.S. monetary authorities would want to sell (buy) an equivalent amount of dollars in the foreign-exchange market. But which currencies would the U.S. monetary authorities use in these transactions? If they were to buy (or sell) the currencies of the countries that had initially bought (or sold) dollars, and in equivalent amounts, they would exactly offset the actions of the foreign authorities. An alternative procedure would be for the United States to employ foreign currencies in proportion to the importance of the countries concerned in total U.S. international transactions, or in accordance with the relative weights of currencies in the SDR basket. This procedure would prevent changes in the U.S. official reserve-transactions position and would insulate the effective exchange rate for the dollar from the effects of foreign official intervention. The countries initially engaging in official exchange intervention could stabilize, or change in some desired way, their effective exchange rates, provided that third countries were willing to accept the consequences for their effective exchange rates. Only if third countries refused to permit their effective exchange rates to be influenced in this way would the countries initiating the official intervention be unable to achieve their objectives. As this analysis suggests, the larger the number of countries that act to prevent any change in their official reserve position, the greater will be the change in the effective exchange rates of the countries that remain passive in response to positive (nondefensive) intervention by other countries in the system.

Forward-market intervention. Official intervention in the forward market serves as a substitute for spot-market intervention. For example, in the absence of exchange controls, private transactors will normally engage in covered interest arbitrage to keep the spread between the spot and forward rates close to the differential corresponding to interest parity.

Under these circumstances, official pegging of the forward rate would imply *de facto* pegging of the spot rate as well. The major difference would be that the monetary authorities delay their net reserve losses or accruals for a brief period until their forward contracts come due. Consequently, rules limiting changes in a country's reserve position should succeed in limiting the combined amount of spot and forward intervention. It seems unnecessary, therefore, to advocate rules that directly prohibit or circumscribe official forward-market intervention.

The criteria for changes in reserve assets. We have suggested that rules for a floating-rate system should specify quantitative limits to changes in official reserves between reporting periods, since such changes indicate the extent of net market intervention. The official reserve position usually varies with changes in a country's reserve assets, consisting of foreign currencies, SDRs, IMF gold-tranche position, and gold. However, countries sometimes acquire currencies from the IMF in borrowings beyond the gold tranche or obtain currencies in swap transactions with foreign monetary authorities. These borrowings (and their repayment) imply that a better measure of a country's official intervention is the change in its net official reserve position, defined as official reserve assets less official obligations to foreign official agencies and to the IMF for drawings within the credit tranches. (Drawings from the IMF within the gold tranche would simply reduce a country's gross official reserves.) For a country whose currency is widely employed as a reserve asset, the rules should refer to changes in the *official reserve-transactions position* rather than to changes in the *net official reserve position.* (The official reserve-transactions position differs from the net official reserve position by the amount of liquid obligations of residents of the country to foreign monetary authorities that are not the direct obligations of the domestic monetary authority.) Changes in the official reserve-transactions position provide a measure identical with the overall balance in a country's international accounts, corresponding to the size of net official intervention.

Even if a reserve-currency country does not itself intervene in the exchange market, it will still experience a change in its official reserve-transactions position if there has been net intervention by other countries. A rule requiring no net change in its official reserve-transactions position over a given period would thus require it to intervene to offset such foreign intervention. We suggest the following resolution of the problem: First, any *non*reserve-currency country that has limited the changes in its net official reserve position to the margins prescribed should be regarded as having observed the rules. Second, any country should have the right to intervene in order to adjust its official reserve-transactions position to

the extent that other countries have exceeded the specified limits of intervention in its currency. Conceivably a problem might arise if a number of countries each increased their holdings of dollars by the maximum amount permitted under the rules regarding intervention. In this case, no one country would exceed its specified intervention constraint, but collectively there might be a substantial appreciation of the dollar in the exchange market that the United States might not desire (or, as is more likely, the dollar would be prevented from depreciating in response to changing fundamentals). To deal with this possibility, the IMF might set a "global quota" limiting the aggregate net accumulation or decumulation of a given reserve currency by all other countries over a period of time. Once the ceiling had been reached, countries that had not reached their intervention limits would be required to buy or sell a reserve currency other than the one in question.

The Role of Liquidity and the Nature of the SDR under a Floating-Rate Regime

In a universal system of floating rates with no official intervention, official reserves or liquidity would play no role. Private liquidity would be generated by the domestic monetary systems and, unless domestic deflation occurred in many countries simultaneously, there could be no shortage of international liquidity for private transactions. In a managed floating-rate system, some official reserves would be required for purposes of moderate and temporary intervention. But large amounts of liquidity should not be needed, and nearly all developed countries have abundant reserves. Moreover, the activation of swap credit lines alone should meet all the official liquidity requirements under reasonable rules for a floating-rate system. IMF drawings might be available for assistance to the less developed countries, but they would scarcely be needed by the cooperating members of a floating-rate system.

Nevertheless, nations are likely to want to maintain substantial reserves. For one thing, they may want to have reserves available when and if a par-value system is reestablished. For another, they may envisage a period of extreme balance-of-payments weakness when they would want large reserves in order to avoid a substantial depreciation of their currency. More important, nations regard their monetary reserves as an element of national security irrespective of the agreements they may negotiate regarding their use.

The SDR was designed for a par-value system with parities expressed in terms of gold and with one currency, the dollar, convertible into gold for purposes of setting official monetary transactions. The SDR was also

expected eventually to become the principal official reserve asset. Indeed, officials in a number of countries have expressed the view that the SDR should replace foreign currencies, and perhaps all other official reserve assets. The original "gold valued" SDR was clearly unsuitable for a floating or flexible par-value system in which no currency is convertible into gold. Consequently, the IMF has redefined the SDR in terms of a "basket" of currencies, each new SDR unit comprising a fixed number of units of sixteen international currencies.[9] The new SDR unit provides distinct advantages for a floating-rate regime. In particular, it has more "exchange-rate stability" than any single currency or commodity, since changes in rates of exchange among the currencies in the basket will have a minimal effect on its value.

So far, the new SDR has played only a limited role, for several reasons. First, SDRs constitute only a small proportion of total reserve assets. Second, they remain a conditional reserve asset, that is, both their employment for obtaining foreign exchange and their acceptance by IMF members are subject to complex conditions. Third, the SDR cannot be used as an intervention currency because it is not freely marketable.

These limitations could be removed, however. The volume of SDRs could be expanded by permitting countries to exchange their existing dollar and other convertible foreign-exchange reserves into SDRs at the Fund. This would leave the Fund holding large amounts of dollars, but over time these could be sold in the exchange market to acquire the appropriate amounts of other currencies in the SDR basket. Action by the IMF in selling dollars to acquire the other currencies in the SDR basket would reduce the depreciation of the major nondollar currencies that might otherwise occur if other countries experienced large deficits with the oil-producing countries while the United States was in surplus. The same effect would be achieved if other countries, in the face of an overall deficit, used their dollars to support the value of their currencies directly. In addition, there could be new allocations of SDRs by the IMF.

A private international market for SDRs. The creation of a *private* international market for SDRs would appear to eliminate any need for the present complicated arrangements by which certain members are "designated" to provide their own currencies in exchange for SDRs transferred by other members (IMF *Articles of Agreement*, as amended effective July 28, 1969, Art. XXV). Drawings from the IMF could take the form of purchases of foreign currencies, or they could take the form of SDRs. In either case, obligations to the IMF could be settled by SDRs. The

[9] For a description of the new SDR, see "Basket Valuation of SDR Takes Effect," *IMF Survey* (July 8, 1974), pp. 209ff.

SDR unit could serve both as a standard for private international obligations and as a medium of exchange. There could be transfers of SDRs among banks, or even among nonbanks, just as Eurocurrencies are transferred. An SDR deposit in a commercial bank would represent an obligation by the bank to deliver the basket of currencies constituting the SDR. (Actually, banks would rarely be asked to give depositors a basket of currencies; instead, depositors would probably withdraw their funds by accepting one particular currency in an amount equal to the value of the SDR in terms of that currency on any particular day.) There could be both SDR demand deposits and SDR time deposits. The foreign-exchange value of currencies might come to be expressed in terms of SDRs instead of in dollars.

The development of a private international market for SDRs and its use as an international standard of value would facilitate intervention, because monetary authorities could engage in short-term exchange-rate stabilization by buying or selling SDRs against their own currency. In such transactions, monetary authorities would be seeking to stabilize or otherwise influence the value of their currency in terms of a basket of foreign currencies (approximating the effective exchange rate for their currency) rather than in terms of the dollar or the pound sterling.

The Guidelines for Floating Rates Recommended in the Outline of Reform[10]

The guidelines set forth in the *Outline of Reform*, whether for the interim period of generally floating rates or for particular floats authorized after the new par-value system has been established, are designed to impose the same principles governing adjustment actions on countries adopting floating rates as on countries maintaining par values. Specifically, this means that in managing their floats countries are to take into account the repercussions on other countries and "promote exchange market stability and the international consistency of policies affecting exchange rates and reserves," subject to the surveillance of the Fund. Thus, floating rates appear to be regarded as a mechanism of adjustment within the framework of principles underlying an exchange-rate regime based on "stable but adjustable par values" rather than those associated with a regime in which exchange rates are mainly determined in response to market forces. In the following paragraphs, we comment briefly on these guidelines for floating rates as they relate to the issues discussed in previous sections of this essay.

[10] To facilitate the discussion below, "Guidelines for Countries Authorized to Adopt Floating Rates," Annex 4B of the *Outline of Reform*, is reprinted as an Appendix to this essay.

Guideline (1). In the commentary on this guideline contained in a statement issued by the Executive Directors of the IMF on June 13, 1974,[11] it is stated that intervention undertaken to moderate large day-to-day or week-to-week movements in rates due to speculative or other factors should tend to "net out over time" if properly conducted. However, "known large once-for-all or reversible transactions would be largely offset and their effects spread over time." Guideline (1) would appear to be consonant with rule 2 on page 5 of this essay for "neutral intervention to moderate exchange-rate fluctuations," although it contains no explicit requirement for the restoration of a country's original reserve condition over time. Guideline (1) also encompasses our previously discussed rule on intervention to offset the effects of political and economic shocks.

It might be argued that "sharp" movements in spot rates, which presumably reflect the market's average expectation of spot rates in the future, should not be offset by the monetary authorities, whose judgment may not be as good as that of the market. Moreover, we would dispute the apparent identification of "sharp" with "disruptive" exchange-rate movements. If the market has made a mistake it will soon correct itself, but if monetary authorities are wrong, they are likely to persist in supporting an untenable rate. Thus official intervention could well vitiate the advantages of exchange-rate flexibility for limiting destabilizing speculative movements. Nevertheless, if Guideline (1) were accompanied by reserve criteria limiting the amount and duration of official intervention, the departure from the principle of market determination of exchange rates might not prove serious.

Guideline (2) involves essentially the same principle as Guideline (1) but in a longer time frame. Its justification is presumably based on the belief that the monetary authorities' evaluation of available economic evidence is likely to be superior to the average evaluation of this evidence by thousands of profit-seeking merchants, bankers, and speculators. We are unaware of any evidence to support this proposition. Perhaps the best evidence would be the profit-and-loss statements of central banks on their foreign-exchange transactions over a fairly long period that included a variety of economic conditions. If the central bank were a consistently profitable speculator, it would obviously be buying when the rate was temporarily high and selling when the rate was temporarily low, and its actions would clearly be stabilizing in a long-run sense. Quite desirably, however, Guideline (2) provides that "the member should not normally act aggressively with respect to the exchange value

[11] "Guidelines for Management of Floating to be Used by Board in Consultations," *IMF Survey* (June 17, 1974), pp. 181-183.

of its currency (i.e., should not act to depress that value when it is falling, or to enhance that value when it is rising)."

Guideline (3a). According to the Commentary on Guideline (3a), "the medium-term norm" is a rate that would bring about balance-of-payments equilibrium over a period of about four years, during which seasonal, speculative, and cyclical factors that were considered reversible would be ignored.[12] In considerable measure, the arrangement suggested in (3a) provides the link between a managed floating rate, on the one hand, and the future general system of stable but adjustable par values, on the other. In practice, this arrangement could prove substantially more flexible and satisfactory than the Bretton Woods par-value system, provided changes in official reserves would lead the member country (or the Fund) to adjust the target zone in a direction that accords with the market's consensus. However, there is no requirement that members' target zones be adjusted on the basis of the magnitude of their net intervention. In fact, if a country's oil deficits were regarded as temporary or adjustable by means other than an exchange-rate movement over a four-year period, massive intervention in support of a member's currency might be consistent with this guideline, provided the Fund agreed.

Guideline (3b). It may be noted that the principal criterion for Fund action here is whether the exchange rate of a member is inimical to the interests of other members. This provision, taken in combination with the consultation requirement in (3a), is clearly desirable provided one accepts the principle of the medium-term norm or target zone of rates established in Guideline (3a). If the market view differs from that of the monetary authorities of a member country regarding the appropriate level of the exchange rate, the joint view of the Fund and of the market is likely to prove more correct.

Guideline (4) refers to *stock* adjustments of reserves as contrasted with *flow* adjustments. Its implementation requires that members reach agreement with the Fund on the appropriate level of their reserves.

Guideline (5) is consistent with other provisions of the *Outline of Reform* that members should refrain from restrictions on current-account transactions as a means of balance-of-payments adjustment.

Guideline (6) refers to the need for orderly arrangements for the use of intervention currencies, a subject we have already discussed.

[12] *Ibid.*, p. 183.

The C-20 Guidelines in the Context of the Oil Crisis and Worldwide Monetary Instability

The most difficult and controversial aspects of the C-20 Guidelines relate to the establishment of target exchange-rate zones, especially in a world economy affected by high (and varying) rates of inflation among the major industrial countries and by enormous oil deficits. Should the "medium-term norm for the exchange rate" be designed to establish equilibrium among the major industrial countries on the assumption that the current deficits with the OPEC countries and the attendant capital movements are temporary or reversible (or best dealt with by measures other than exchange-rate changes), or should exchange-rate movements under a general floating-rate system play a major role in the adjustment process? We believe that exchange-rate changes should play a major role in adjusting the external accounts of the major oil-importing countries toward overall equilibrium in response to the disturbances created by the oil-price increases. Accordingly, we suggest the approach outlined in the following paragraph.

Barring unexpected developments, the major oil-importing countries will have substantial current-account deficits over the next few years. In the aggregate, these deficits will be balanced by capital-account surpluses as the OPEC countries invest their burgeoning export earnings. But the pattern of these investments is unknown. In the longer run, oil-importing countries must reduce their current-account deficits by selling more to the OPEC countries as the latter step up their imports to match their oil exports and the growing interest and dividend earnings they will receive on their overseas assets. This will require larger current-account adjustments on the part of countries with larger initial oil deficits. For this reason, and also to stimulate private non-OPEC capital flows to countries receiving less than their "fair share" of OPEC investments, exchange rates should be permitted to fluctuate within fairly broad limits, perhaps as much as 15 per cent above or below current effective rates. It is suggested, therefore, that the IMF establish a lower limit for the effective exchange rate of each of the major oil-importing countries. Whenever it becomes clear that a country's effective exchange rate is being driven down to this predetermined limit as a consequence of an inequitable allocation of OPEC investments in relation to the country's current-account deficit *specifically attributable to the increase in oil prices*, the IMF would make compensatory loans to that country and that country would be permitted to inject these funds into its exchange markets. In the interest of symmetry, countries whose effective exchange rates were rising toward a predetermined upper limit—again as a consequence of

OPEC investments in relation to their current-account deficits attributable to the rise in oil prices—should be encouraged to sell their currencies on the exchange market or loan them to the IMF. The IMF might review the upper and lower limits for the effective exchange rate of each country every year, and adjust them in either direction in relation to the average effective rate during the previous year. This procedure would ensure that compensatory financing of the type suggested above would not continue indefinitely, but that eventually a pattern of exchange rates consistent with the long-run international petroleum situation could be achieved. It makes little sense to continue to apply short-run palliatives to long-run problems.

Conclusions

Realistically, our conclusions must relate to the implementation by the IMF of the C-20 Guidelines as a *fait accompli* (since they have been adopted by the IMF Board) rather than to our "Alternative Rules for Official Market Intervention" set forth in this essay. We conclude that Guidelines (1) and (2), which prescribe or encourage official intervention to moderate short-term and reversible movements in exchange rates, should be implemented by using criteria relating to net changes in official reserves. Except for sudden changes in payments balances that, in the opinion of the Fund, are clearly of a once-for-all nature, IMF members should be expected to approach the restoration of their original reserve position, say every twelve months. This rule could be modified by a general rule permitting gradual long-term adjustments in the stock of reserves in the interest of redistribution of global reserves. Finally, Guidelines (1) and (2) should be regarded as permissive rather than compulsory, so that any country desiring to avoid official intervention would be permitted to do so.

We believe that Guideline (3a), permitting countries to establish a target zone of rates, could lead to attempts to defend disequilibrium rates for long periods of time unless a change in the target zone is triggered by movements of official reserves beyond a certain amount. The maximum permitted change in reserves should be somewhat flexible, rather than fixed, in order to reduce one-way speculation. The provision for IMF surveillance of the target zone of rates prescribed by Guideline (3b) is highly desirable, but changes in official reserves should be controlling rather than the joint judgment of the Fund and the member country with respect to a medium-term equilibrium range of rates. Finally, we support a substantial reliance on exchange-rate adjustments in dealing with the current international petroleum situation, along the lines recommended in the preceding section.

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APPENDIX

Annex 4B. Guidelines for Countries Authorized to Adopt Floating Rates[13]

Countries authorized to adopt floating rates would be guided by the same principles governing adjustment action as countries maintaining par values. In particular, in choosing among different forms of adjustment action, domestic or external, they would take into account repercussions on other countries as well as internal considerations. Countries authorized to adopt a floating exchange rate would be subject to surveillance in the Fund, in accordance with the procedures described in paragraphs 5-8 of the *Outline*; in this connection, a sizable movement in the exchange rate for a floating currency might be taken as prima facie evidence for the purpose of paragraph 6(*b*) of the *Outline*. Such countries would also, if appropriate, be liable to the pressures provided for in paragraph 10 of the *Outline*.

In relation to its policy for intervention in exchange markets, a country authorized to adopt a floating rate would observe guidelines designed to promote exchange market stability and the international consistency of policies affecting exchange rates and reserves. Guidelines for the reformed system will need to be developed by the Fund, taking account of experience in the interim period. The following guidelines for the interim period,* which provide the basis for a meaningful dialogue between the Fund and member countries with a view to promoting international consistency during a period of widespread floating, have been established as a starting point.

(1) A member with a floating exchange rate should intervene on the foreign exchange market as necessary to prevent or moderate sharp and disruptive fluctuations from day to day and from week to week in the exchange value of its currency.

(2) Subject to (3)(*b*), a member with a floating rate may act, through intervention or otherwise, to moderate movements in the exchange value of its currency from month to month and quarter to quarter, and is encouraged to do so, if necessary, where factors recognized to be temporary are at work. Subject to (1) and (3)(*a*), the member should not normally act aggressively with respect to the exchange value of its currency (i.e., should not so act as to depress that value when it is falling, or to enhance that value when it is rising).

(3)(*a*) If a member with a floating rate should desire to act otherwise than in accordance with (1) and (2) above in order to bring its exchange rate within, or closer to, some target zone of rates, it should consult with the Fund

[13] From Committee of Twenty, *Outline of Reform with Accompanying Annexes*, June 1974.

* These guidelines have been adopted by Executive Board Decision No. 4232-(74/67), June 13, 1974. They are contained in a memorandum referred to in that decision and should be understood in the light of the commentary in that memorandum. The decision and accompanying memorandum were made public in Fund Press Release No. 74/30, June 13, 1974 (*IMF Survey*, Vol. 3, 1974, pp. 181-183). See also *Annual Report of the Executive Directors for the Fiscal Year Ended April 30, 1974*, Appendix II.

about this target and its adaptation to changing circumstances. If the Fund considers the target to be within the range of reasonable estimates of the medium-term norm for the exchange rate in question, the member would be free, subject to (5), to act aggressively to move its rate toward the target zone, though within that zone (2) would continue to apply.

(*b*) If the exchange rate of a member with a floating rate has moved outside what the Fund considers to be the range of reasonable estimates of the medium-term norm for that exchange rate to an extent the Fund considers likely to be harmful to the interests of members, the Fund will consult with the member, and in the light of such consultation may encourage the member, despite (2) above, (i) not to act to moderate movements toward this range, or (ii) to take action to moderate further divergence from the range. A member would not be asked to hold any particular rate against strong market pressure.

(4) A member with a floating exchange rate would be encouraged to indicate to the Fund its broad objective for the development of its reserves over a period ahead and to discuss this objective with the Fund. If the Fund, taking account of the world reserve situation, considered this objective to be reasonable and if the member's reserves were relatively low by this standard, the member would be encouraged to intervene more strongly under (2) to moderate a movement in its rate when the rate was rising than when it was falling. If the member's reserves were relatively high by this standard it would be encouraged to intervene more strongly to moderate a movement in its rate when the rate was falling than when it was rising. In considering target exchange rate zones under (3), also, the Fund would pay due regard to the desirability of avoiding an increase over the medium term of reserves that were recognized by this standard to be relatively high, and the reduction of reserves that were recognized to be relatively low.

(5) A member with a floating rate, like other members, should refrain from introducing restrictions for balance of payments purposes on current account transactions or payments and should endeavor progressively to remove such restrictions of this kind as may exist.

(6) Members with a floating rate will bear in mind, in intervention, the interests of other members including those of the issuing countries in whose currencies they intervene. Mutually satisfactory arrangements might usefully be agreed between the issuers and users of intervention currencies, with respect to the use of such currencies in intervention. Any such arrangements should be compatible with the purposes of the foregoing guidelines. The Fund will stand ready to assist members in dealing with any problems that may arise in connection with them.

The Executive Board may decide to amend these guidelines in the light of experience or to adapt them to the circumstances of individual member countries, and in particular will give special consideration to the manner in which they should be applied by developing countries, taking account of the stage of evolution of their exchange markets and intervention practices.

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