

ESSAYS IN INTERNATIONAL FINANCE

No. 126, December 1977

LEANING AGAINST THE WIND:
A STANDARD FOR MANAGED FLOATING

PAULA A. TOSINI



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the one hundred and twenty-sixth 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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PETER B. KENEN, *Director*
International Finance Section

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Library of Congress Cataloging in Publication Data

Tosini, Paula A.

Leaning against the wind.

(Essays in international finance; no. 126 ISSN 0071-142X)

Bibliography: p.

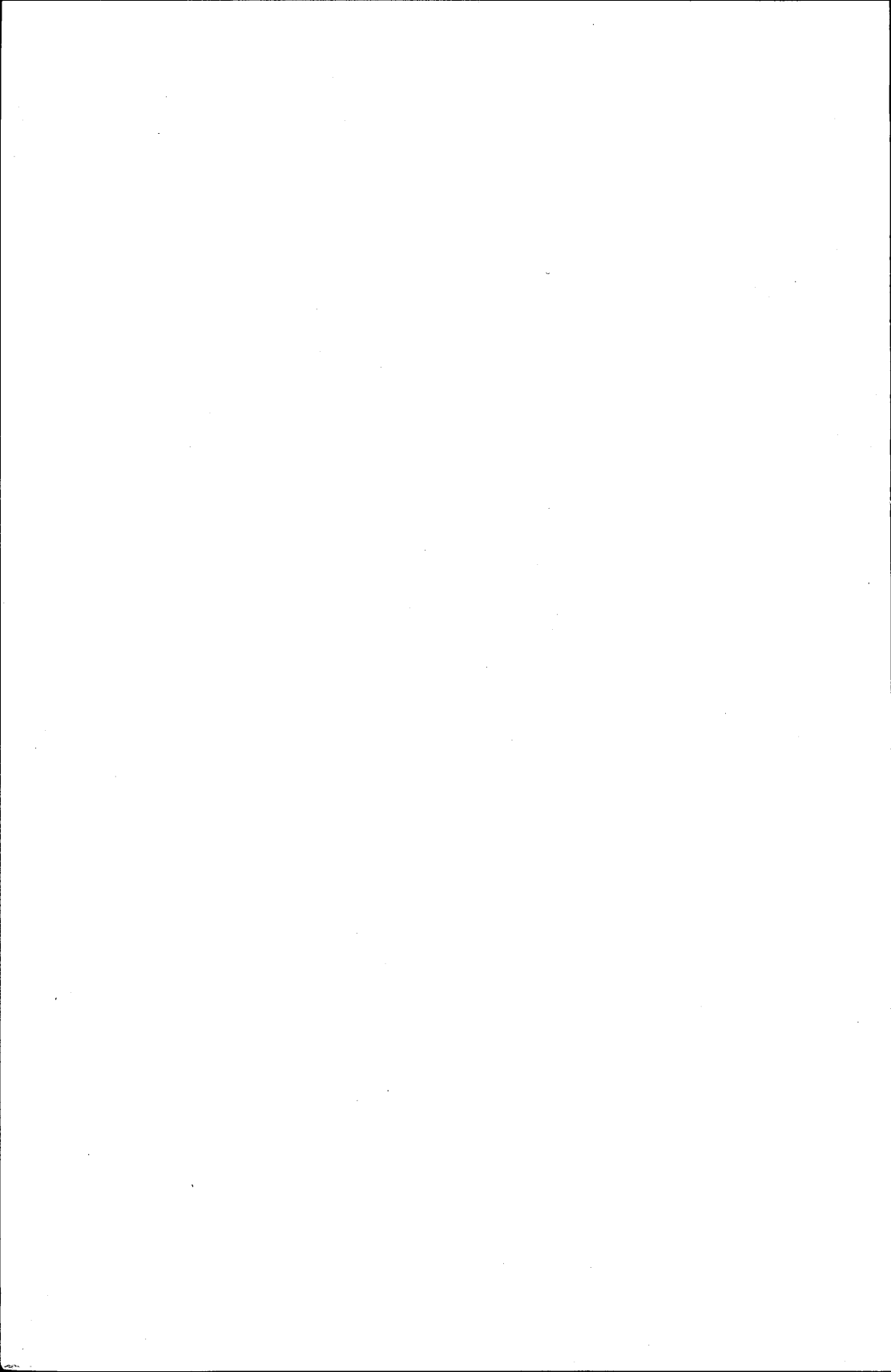
I. Foreign exchange problem—Addresses, essays, lectures. I. Title.
II. Series: Princeton University. International Finance Section. Essays in international finance; 126.

HG136.P7 no. 126 [HG3821] 332s [332.4'5] 77-25868

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

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Leaning Against the Wind: A Standard for Managed Floating

Introduction

Managed floating is an intermediate exchange-rate regime between pegged and freely floating rates. In the boundary cases, the rules for market intervention are relatively straightforward. Under pegged rates, the monetary authorities are required to intervene in the market to maintain the officially announced values of their currencies. Under freely floating rates, they are required to refrain from intervening in the exchange market. Managed floating, by covering a spectrum of exchange-rate policies, has an array of potential intervention rules. The choice among them depends upon where along the continuum the floating-rate regime is to be located.

Two principal approaches to managed floating may be distinguished, and thus two types of rules for floating. These approaches can be classified in terms of the primacy accorded either to the market or to the officially determined price of foreign exchange. At one end of the spectrum, intervention may be limited to smoothing exchange-rate movements; managed floating will then resemble a freely floating regime. At the other end of the spectrum, officials may pursue an active intervention policy, based on strong views about "appropriate" exchange rates; managed floating will then resemble a pegged-rate system.¹

The major difficulty in developing standards for a system based on target rates is how to determine, maintain, and revise the targets without offering a one-way option to speculators. Target rates thus involve many of the problems, discussed at length in official and academic circles, which

The author wishes to express her sincere appreciation to Paul Wonnacott, who sparked her initial interest in managed floating and whose advice helped guide this research.

¹ It is, of course, possible to construct intervention rules that give countries the option of managing their currencies anywhere along the spectrum. This was done in the interim guidelines on floating developed by the International Monetary Fund's Committee of Twenty (IMF Press Release No. 74/30, June 13, 1974; reprinted in IMF, 1974). However, when standards for exchange-rate management permit intervention both to moderate rate movements and to reach target levels, countries' exchange-market policies may be inconsistent. In cases of conflicting goals, one of the two approaches must be accorded primacy if mutually offsetting intervention is to be avoided.

led to the demise of the Bretton Woods system. There is also a problem, however, in developing standards for an exchange-rate regime located toward the market end of the continuum. It is to develop an appropriate definition of intervention. If rules are framed solely in terms of market intervention, then, although the letter of the law may be satisfied, its spirit may be violated by official actions in areas other than the exchange market.

The focus of this essay is exchange-rate management toward the freely floating end of the spectrum. This is an approach to management that has received relatively little attention in the literature.² It is one that needs attention, however, since it is the system that has been in force since March 1973. Such an exchange-rate regime may be prone both to the dangers of management and to the inherent defects of floating. The dangers of management are those arising from the possibility of competitive exchange-rate manipulation and from the maintenance of an outdated status quo. The defects of floating include volatile exchange rates, large swings of rates over relatively short periods, and inappropriate levels of rates established in the private market. The purpose of this essay is to develop intervention rules that can mitigate both the dangers of management and the defects of floating. After a brief review of the first four years' experience with managed floating among the major industrialized countries, criteria for intervention in the spot and forward exchange markets will be examined. The subsequent discussion will center on standards for indirect means of influencing exchange rates.

Experience under Generalized Floating

Since March 1973, intervention under the floating-exchange-rate regime (excluding intervention required within the European Communities' currency bloc) has more closely approximated a system of moderation than one based on target rates. Such a tendency could have been expected, since the Bretton Woods system disintegrated in large part because officials no longer held firm views about the appropriate exchange rates for their currencies. It might be objected that the magnitude of market intervention has at times been comparable during the pegged- and floating-rate periods. However, movements of rates as well as levels of

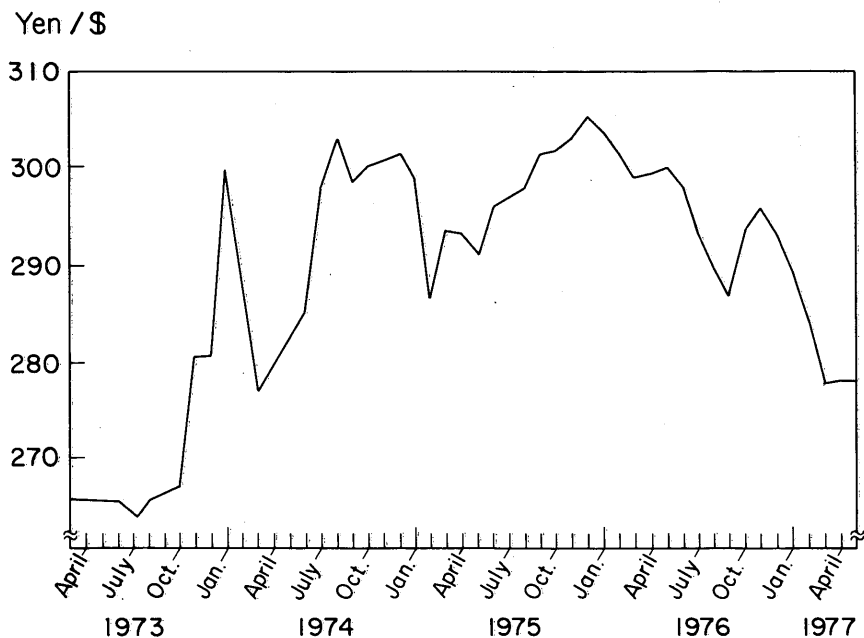
² The principal works include Mikesell and Goldstein (1975), Wonnacott (1965, 1972), and Eastman and Stykolt (1956, 1957, 1958). Ethier and Bloomfield's (1975) reference-rate proposal and Williamson's (1975) extension of it are variants of the target-rate approach to float management.

intervention must be considered when comparing exchange-rate regimes. During the years since March 1973, in contrast to the earlier period, the exchange rates of the major currencies have often fluctuated considerably over short periods rather than changing only at the time of infrequent parity adjustments. Market intervention during the floating-rate era, although sizable at times, has only moderated rather than arrested changes in most major countries' exchange rates (see Brown, 1976, especially pp. 22-25).

A study of the management practices of the principal trading nations offers interesting insights into the operation of such a system under conditions of worldwide inflation, global recession, and the sudden quadrupling of oil prices. The most widely used means of exchange-rate management since early 1973 have been official sales and purchases of foreign exchange in the spot market; foreign borrowing by governments, public authorities, and even commercial banks, in large part to meet increased payments for oil imports; the maintenance of relatively high domestic interest rates to attract capital inflows or discourage outflows; and the introduction or dismantling of capital controls. The Bank of England is the only major central bank which, according to the financial press, appears to have engaged in significant forward intervention—most notably during the summer and early fall of 1976.

The choice of particular policies for exchange-rate management by the major trading nations has depended upon several factors, including the degree of official control over the exchange market, the openness of the economy, and the domestic situation. The direction of policy actions has been determined by the general strength of the country's currency, which was in part a reflection of whether the oil-payments problem was superimposed on an underlying surplus or deficit in the current account. The Swiss franc, the Deutsche mark, and the currencies of several of Germany's smaller neighbors have been relatively strong during most of the period since March 1973, while the pound sterling, the Italian lira, and the French franc have been relatively weak. The Japanese yen and the U.S. and Canadian dollars have occupied intermediate positions between these two groups of European currencies. The oil crisis initially weakened the yen, but the Japanese currency rebounded considerably within several quarters (Figure 1). The U.S. and Canadian dollars moved within a range of approximately 8 per cent of each other during the first four years of the floating-rate era, but they experienced a tendency to depreciate against the stronger European currencies and a more pronounced tendency to appreciate against the weaker ones. Most sig-

FIGURE 1
 CLOSING RATE (YEN/\$) FOR THE LAST TRADING DAY OF THE MONTH



SOURCE: IMF, *International Financial Statistics*.

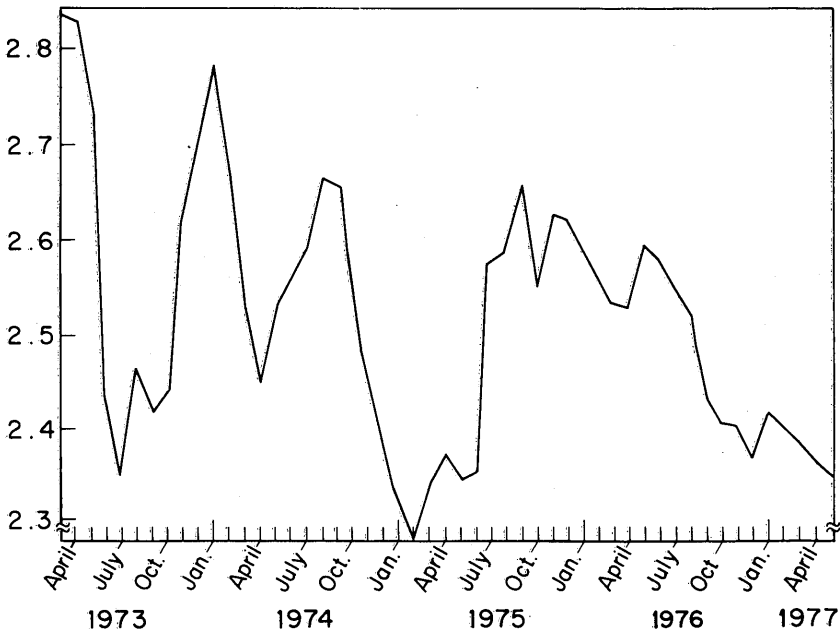
nificant, however, the floating U.S. dollar has undergone large swings in value with respect to the more robust European currencies. For example, the American currency appreciated by approximately 20 per cent with respect to the mark from July 1973 until January 1974, and then depreciated by approximately 15 per cent during the next four months (Figure 2).

During the floating-rate era, some observers have at times claimed to discern competitive exchange-rate practices. For example, Congressman Henry Reuss and C. Fred Bergsten questioned the propriety of the Bank of Japan's intervention to restrain the yen's appreciation when, during the first half of 1976, Japan had a significant trade surplus with the United States (see U.S. Congress, 1977). In early 1975, France and several smaller European countries claimed that the dollar's depreciation was ex-

FIGURE 2

CLOSING RATE (DM/\$) FOR THE LAST TRADING DAY OF THE MONTH

DM/\$



SOURCE: IMF, *International Financial Statistics*.

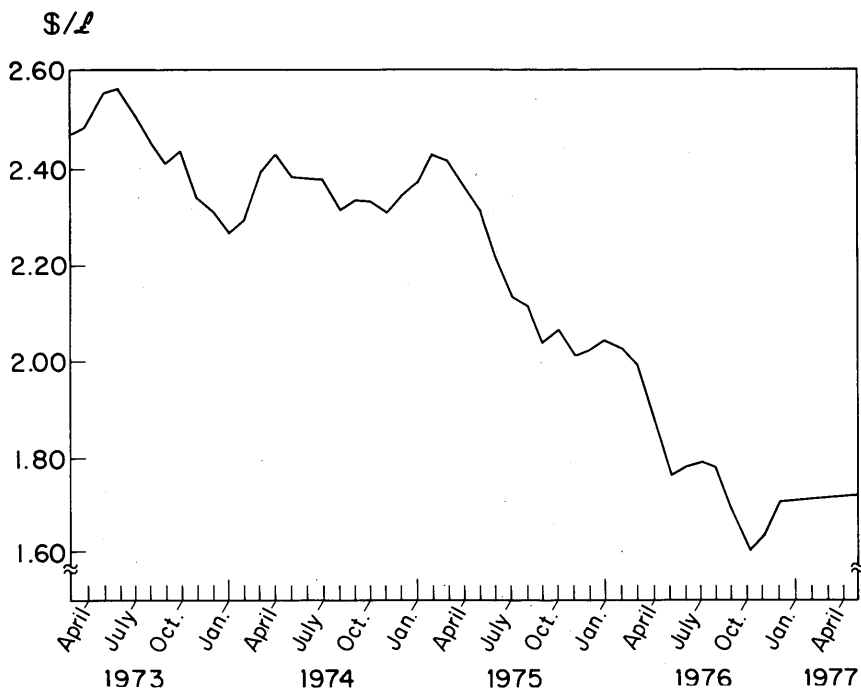
cessive and resulted from an American policy of "benign neglect," which included low interest rates in the United States.

At times since March 1973, central banks have intervened to such an extent that their exchange rates remained virtually unchanged for several months—the other potential problem of float management. Beginning in the spring and continuing into the fall of 1973, for example, the Bank of Japan sold large quantities of dollars and maintained the yen at approximately 265 per dollar. Japanese intervention policy during these early months of floating may have been motivated in part by a desire to reduce the "excess" reserves accumulated during the Bretton Woods era. With the onset of the oil crisis in late 1973, the Bank of Japan first appeared to raise its selling rate for dollars and then retreated from an intervention program seemingly based on unilaterally determined target

rates, adopting instead the aim of moderating or smoothing exchange-rate fluctuations (Figure 1).

The Bank of England intervened heavily in the exchange market during late 1976 and throughout the spring of 1977, and over this period the pound remained between \$1.71 and \$1.72 (Figure 3). This intervention, following the British currency's rebound from its historic lows of October 1976, consisted primarily of sterling sales as the pound strengthened in the market. The counterpart purchases of dollars helped to raise the Bank of England's depleted reserves to record levels.

FIGURE 3
CLOSING RATE (\$/£) FOR THE LAST TRADING DAY OF THE MONTH



SOURCE: IMF, *International Financial Statistics*.

Despite these selective problems of management, the most serious systematic difficulty of generalized floating during much of the period since March 1973 has been the tendency toward significant fluctuations in exchange rates. Although the large cycles of rates observed during the first two years of floating have subsided considerably, substantial swings in

rates have continued into the more recent period (see IMF, 1976, Chap. 2, for a discussion of the large oscillations of exchange rates during the floating-rate period).

Standards for Exchange-Market Intervention

One conclusion of this essay will be that a rule permitting "leaning against the wind" in the spot and forward markets is the most appropriate standard for market intervention. Such a rule prohibits intervention in an aggressive direction; intervention must oppose rather than reinforce market movements of exchange rates. In addition, if significant intervention has taken place over a period, exchange rates should have changed during that time. Stated differently, a policy of leaning against the wind implies that the status quo should not be maintained firmly by market intervention; the strength of the wind is to be reduced but not neutralized. A second conclusion will be that intervention should, in general, be symmetrical; central banks should normally intervene with comparable vigor, or to a similar degree, when their exchange rate is falling as when it is rising.

The appropriateness of leaning against the wind, as defined above, can be assessed from two vantage points. First, would such a policy be beneficial on balance or at least not harmful to the country that pursues it? Second, from the standpoint of the international community as a whole, would such a rule be a reasonable guarantee against the perceived dangers of managed floating?

The Standard of Nonaggressive Intervention from the Intervening Country's Standpoint

Whether a policy of nonaggressive intervention is considered appropriate by a particular country should depend upon two factors: the nature, over time, of the exchange-rate sequence that is being managed and the expected reactions of private currency dealers to the government's purchases and sales of foreign exchange. These issues will be discussed initially in terms of spot-market intervention; the relationship between spot and forward rates will be examined subsequently.

The underlying exchange-rate movement. Two types of exchange-rate sequence are discussed below under the assumption that private participants in the exchange market are unaware of the government's intervention strategy: apparent one-way movements extending beyond the horizon and variations that are considered likely to reverse themselves in the

foreseeable future. In the first case, a policy of leaning against the wind may not be appropriate, particularly if the currency's managers believe that the exchange rate's one-way movement is roughly compensating, in direction and degree, for changes in the country's international competitiveness. With a rule that permits but does not require leaning against the wind, officials have the option of withdrawing from the market or, for that matter, of never entering it to moderate exchange-rate fluctuations. However, given great uncertainties concerning future trends of exchange rates, currency managers may consider it appropriate to temper apparent one-way movements of their rates, thereby buying time to assess underlying conditions and avoiding abrupt changes of their currency's foreign-exchange value.

Furthermore, a country's currency will normally be moving in one direction over a considerable period when that country's rate of inflation differs significantly from inflation rates in other major nations. When a country with a depreciating exchange rate has been experiencing significantly higher rates of inflation than its trading partners, the remedy rests primarily with domestic stabilization programs rather than with exchange-rate policies. Even so, the inflationary feedback of a depreciating exchange rate on the domestic economy may argue for some moderating intervention until domestic policies begin to produce results.

When it appears unlikely that a currency's foreign-exchange value will move in one direction over the horizon, a policy of leaning against the wind offers the advantage of reducing exchange-rate fluctuations without suppressing longer-run trends. Several arguments may be advanced for smoothing exchange-rate movements that appear likely to reverse themselves over a reasonable length of time. First, exchange-rate swings increase uncertainties and may give erroneous signals for the allocation of resources between production for domestic and foreign markets and between consumption of domestic and foreign goods. Second, inappropriate exchange rates, if they remain in existence over sufficiently long periods, may set in train forces that make them self-justifying. Fellner (Fellner *et al.*, 1966, p. 119) discussed this problem of freely floating rates a decade ago:

... if temporary market forces lower the exchange rate of a country below the level which initially may be considered the long-run equilibrium level, and if for a while the rate stays lower because the market does not confidently expect a return to the higher level, then the prices of imports and of import-competing goods may rise, wages may rise, and the market may turn out to have been right in not expecting a return to the initial level.

One reason that freely floating rates may lead to resource misallocation is that the balance of payments contains two quite different accounts—one involving the flow of goods and services and the other involving the flow of financial assets. The current and capital accounts often respond to different variables, or at least differentially to the same variables, and normally there is a significant disparity in the speeds of response of these two accounts. Since the end of World War II, private capital has increasingly crossed international frontiers, in part in response to differences in interest rates. If countries whose business cycles are not synchronized rely heavily on monetary policy for domestic stabilization, differences in interest rates are likely to change over short periods of time. Such shifts in the returns on investments should be expected to cause substantial capital movements among major countries, particularly those whose foreign-exchange markets are relatively free of controls. For example, changing interest-rate differences between Germany and the United States appear to have contributed significantly to the sizable swings of the dollar-mark rate over much of the period since March 1973.

The case for official intervention requires more than the existence of changing flows of interest-sensitive capital or lumpy transactions by exporters, importers, or corporate treasurers hedging their foreign-exchange exposure. It is necessary to posit, in addition, a degree of market imperfection or obstruction. Under such circumstances, other private participants in the market—speculators—are limited in the degree to which they can or will take the opposite side of the market and thereby reduce exchange-rate fluctuations. At present, the principal “position takers” in the private exchange market are the major banks in New York, Chicago, Montreal, Toronto, Tokyo, and the leading financial capitals of Europe. In many countries, however, commercial banks’ operations in the exchange market are substantially restricted by their central banks or by the banks themselves (see McKinnon, 1976, for a detailed discussion of possible reasons why stabilizing speculative activity by the private sector has been inadequate during the period of generalized floating).

Official controls may serve several useful purposes: to limit destabilizing speculation by banks in the foreign-exchange market,³ to protect domestic economies from the effects of serious banking losses, and to

³ A commonly used definition of destabilizing speculation is a capital flow that moves the market rate away from its “medium-term norm or natural rate.” The difficulty with this definition is identifying an empirical counterpart to the “normal” or “natural” exchange rate.

give central banks greater autonomy in using monetary policy for domestic purposes. However, if commercial banks are required to balance their positions, for example daily and by currency and maturity, as is sometimes the case, the banking sector will be constrained in providing elasticity to the exchange market. In such cases, thin markets and large exchange-rate fluctuations are likely unless official flows fill the void.

The effects of intervention on speculators' expectations. A second prerequisite for an effective policy of leaning against the wind is that official intervention, to the extent that the market knows about it at the time, does not normally cause speculators to revise their expectations in a perverse direction and to such a degree that private capital flows completely or more than completely offset official intervention. This assertion appears reasonable both on *a priori* grounds and in light of exchange-market experience since March 1973. With managed floating, the government is not forced to choose between an all-out defense of its existing parity and an announcement of where the next battle line for the currency has been drawn. As a result, official intervention should not provide speculators with a one-way option—unless governments intervene strongly to maintain exchange-rate targets. Instead, heavy speculative betting on one side of the market should normally change an exchange rate managed by a policy of leaning against the wind, and this movement of the rate should lower the expected value of the wager.

In addition, the floating-rate period provides evidence that participants in exchange markets react favorably to intervention that is well known or publicized. On three occasions, when the U.S. dollar had depreciated substantially against the stronger European currencies, central bankers announced their intention of supporting the dollar. The first announcement was a communiqué issued by the central bankers of the Group of Ten plus Switzerland following their July 1973 meeting at the Bank for International Settlements. The other statements of joint support for the U.S. dollar were made in May 1974 and February 1975 by the heads of the Swiss, German, and American central banks. The trends of the dollar–Deutsche mark and the dollar–Swiss franc exchange rates were reversed in the weeks following these announcements of concerted support. At those times, private capital flows reinforced the exchange-rate effects of official purchases of dollars rather than offsetting them.

Rules for Floating as a Safeguard Against the Actions of Other Countries

If national officials are unwilling to relinquish a significant degree of autonomy in international monetary affairs, no set of market intervention

rules can preclude the possibility of competitive exchange-rate practices. Such practices are possible under a pegged-rate regime, as the history of the Bretton Woods period illustrates. A country subscribing to the IMF's Articles of Agreement could hold to an exchange rate even when, over time, underlying conditions had changed. Thus, during the Bretton Woods era the exchange rates of some major currencies became substantially undervalued. When these currencies' pegs were not adjusted or the adjustments were too small and too late, the competitive positions of other countries were adversely affected. Under a freely floating system, moreover, officials can influence exchange rates indirectly by capital controls or monetary policy. It is therefore only in a relative sense that rules for managing floating rates can be expected to safeguard countries against the predatory actions of other nations.

Before the advent of generalized floating, many advocates of floating, as well as opponents, stressed the potential danger that governments might engineer competitive depreciations of their currencies. The introduction to the IMF's guidelines on floating also emphasizes avoiding the beggar-my-neighbor policies associated with the 1930s. The introduction states that, in view of the ". . . importance in present circumstances of avoiding competitive depreciation, particular attention would be attached to departures from the guidelines in the direction of depreciation" (IMF Press Release No. 74/30, June 13, 1974, p. 2). However, as previously noted, there were few charges of competitive undervaluing of exchange rates during the first four years of floating.

Why has competitive depreciation not been a serious problem since March 1973? One explanation is that all major countries experienced significant inflationary pressures during 1973 and 1974. Under such circumstances, the undervaluation of a currency will aggravate the domestic situation by increasing inflationary pressures within the economy. In addition, the huge increase in the price of oil in late 1973 created an aggregate deficit for the industrialized countries which, it was realized, could not be removed over the short run by exchange-rate depreciations.

Even so, during the subsequent serious recessions and weak recoveries experienced by the industrialized countries, widespread attempts at competitive undervaluing of currencies did not occur. One possible reason is that inflation did not disappear with the onset of global recession. Furthermore, most major industrialized countries currently have at their disposal more appropriate tools than their trade balances to stimulate domestic employment. Finally, the experience of the 1930s may have taught officials that the benefits of predatory exchange-rate practices are, at best, ephemeral when other nations have the ability to retaliate.

If competitive manipulation of rates through market intervention were to become a more serious problem in the future, a rule permitting only leaning against the wind would provide a reasonable degree of protection against such practices. A standard of nonaggressive intervention prohibits currency managers from taking the initiative in setting the direction of change of their exchange rates and from accentuating market movements of rates. A rule permitting only leaning against the wind in the market also proscribes intervention to maintain the status quo. In order to monitor compliance with this rule, governments that manage widely traded currencies should be required to exchange timely data on reserve changes and market intervention. If information were provided on gross, daily official transactions in the exchange market, it should not be difficult to uncover cases of significant and continuing aggressive intervention—the “antisocial” behavior against which intervention rules are directed.

The requirement that nonaggressive intervention should normally be symmetrical furnishes a further safeguard against beggar-my-neighbor exchange-rate practices. When a currency appears to be moving in one direction, symmetrical intervention can be defined in terms of the trend movement of the exchange rate. For example, a country with a relatively high or low inflation rate might consider its exchange rate to be following a course approximately proportional to changes in purchasing-power parity. Under such circumstances, intervention would be considered symmetrical if it were of roughly equal magnitude when the exchange rate moved above or below the trend based on the currency’s purchasing-power parity. Such a rule should discourage officials from intervening more forcefully when their exchange rate was appreciating than when it was depreciating, a situation that could otherwise lead to undervaluation of the currency. Although symmetrical intervention should be the general standard, it is not advisable to set quantitative limitations on market intervention to assure strict observance of this guideline. The reasons, discussed below, are that such restrictions appear likely to increase the variability of floating rates and that officials are able to influence their exchange rates by means other than market intervention.

It should also be remembered that there is normally an asymmetry in the ability to intervene; a paucity of reserves usually poses a greater constraint on sales of foreign currencies than does a high level of reserves on purchases. This asymmetry in the ability to intervene, in concert with the actual skewed distribution of international reserves, suggests that the symmetry of intervention should be interpreted in light of the reserve situations of intervening countries. In addition, the current

unequal distribution of reserves among the major trading countries suggests an important exception to the general rule of symmetrical intervention. At present, there is no global formula for reserve creation and apportionment among countries, such as through the periodic issuance of Special Drawing Rights. Under such circumstances, asymmetrical intervention may be an appropriate means for countries to correct abnormally low or high levels of reserves. This exception to the rule of symmetrical intervention, included in the IMF's guidelines on floating, may partially explain the Bank of Japan's substantial sales of dollars during 1973 and the Bank of England's significant purchases during the last few weeks of 1976 and early 1977.

In order to assess the symmetry of intervention, it would be necessary to follow exchange-market and intervention developments over periods that included significant exchange-rate movements in both directions. Countries undertaking asymmetrical intervention to adjust stocks of reserves should be required to spread substantial changes in reserves over considerable periods of time, since major stock adjustments made over short periods may impart excessive rigidity to exchange rates.

Forward Market Intervention

Official purchases or sales of forward foreign exchange are in many ways similar to spot-market intervention. In addition, both spot and forward intervention may at times yield effects on exchange rates similar to those resulting from changes in interest rates. According to the interest-parity theory of the determination of forward and spot rates, covered interest arbitrage provides the principal link between the spot and forward markets. Arbitrage funds should flow into a country with relatively high short-term interest rates until the arbitrageurs' gains from the interest-rate differentials are approximately matched by the losses they incur when selling that currency forward at a discount. Thus, official sales of forward exchange, if they do not cause large, perverse shifts in the private excess demand for forward or spot exchange, should increase the forward premium or reduce the forward discount on the domestic currency. They should thereby induce spot purchases by arbitrageurs of the intervening country's currency.

The interest-arbitrage transmission mechanism between forward and spot rates is far from perfect in many financial centers. Capital controls may inhibit arbitrage transactions; forward markets are normally less well developed than spot markets; and the opportunity cost of interest arbitrage should rise with the proportion of portfolios held in a foreign cur-

rency. However, forward intervention offers central bankers the opportunity to defer the changes in reserves that result from intervention. A country with a depreciating exchange rate, a developed forward market, declining reserves, and few restrictions on capital inflows might well prefer forward to spot sales of foreign exchange. Britain fitted this description in the summer and early fall of 1976 when the Bank of England is reported to have sold dollars on the forward market.

The standard of symmetrical leaning against the wind should provide an adequate safeguard against competitive manipulations of exchange rates through intervention in the forward market as well as the spot market. Nonaggressive intervention in the forward market implies sales of forward exchange when the intervening country's spot rate is depreciating. Subject to the qualifications previously noted, the criterion of symmetrical intervention should apply to forward and spot intervention taken together rather than separately. Intergovernmental exchange of data on forward intervention appears particularly important, since forward transactions can normally be undertaken, at least temporarily, with a high degree of secrecy and no change in reserves.

Additional Standards for Market Intervention

Mikesell and Goldstein (1975) recommended that the rule of nonaggressive intervention in the spot market be supplemented by rules designed to limit the degree of official management of exchange rates. These additional rules include a maximum permissible change in reserves over a period, a time limit on one-way intervention, and a reserve-reconstitution provision.

Such supplementary rules should help ensure that countries do not abuse the privilege of nonaggressive intervention by vigorously resisting most market forces or by intervening more strongly in one direction than in the other. Thus, these provisions would tend to locate the market-intervention system quite close to the freely floating end of the spectrum. However, the principal potential benefit of such rules—their contribution to substantially circumscribing competitive exchange-rate practices—cannot be guaranteed even by severely restricting market intervention. Officials can influence their exchange rates indirectly by actions such as changes in monetary policy and capital controls. The potential cost of the rules suggested by Mikesell and Goldstein is an exacerbation of one of the inherent difficulties of floating—an unnecessarily large variability of rates. This is because exchange markets are likely to be thin if govern-

ments, as well as commercial banks, are strictly limited in their ability to take positions in foreign currencies.

The rules suggested by Mikesell and Goldstein also pose implementation problems. It may be difficult to choose suitable quantitative indicators against which to measure official actions. Here the questions are: How much intervention should be permitted per unit of time? How long should the period of allowable one-way intervention or reserve reconstitution be? And should the same limitations on market intervention be applied to all countries? These problems of quantifying standards are encountered in devising any set of rules based on objective indicators, but the difficulties appear to be more serious when the limitations on intervention are to operate automatically. For example, under the rules suggested by Mikesell and Goldstein, authorities would be required to withdraw from the exchange market once the daily or weekly intervention ceilings had been reached. Officials have shown themselves reluctant to agree to quantitative standards whose operation is automatic (see, in particular, the Committee of Twenty's discussion of objective indicators, as reported in IMF, 1974). At most, national authorities appear willing to agree to presumptive criteria which, as the adjective implies, serve only to suggest that official actions are appropriate or inappropriate.

Mikesell and Goldstein point out, moreover, that a reserve-reconstitution provision may pose an additional difficulty. It may present speculators with a one-way option. When a central bank was selling foreign exchange early in a reconstitution period, speculators might realize that the monetary authority would have to buy foreign currencies later in the period. Mandatory intervention toward the end of the reconstitution period might also accentuate exchange-rate movements; it might be tantamount to aggressive intervention. As a consequence, governments faced with a reserve-reconstitution provision would be likely to decrease their moderating intervention to avoid the unfavorable repercussions of the subsequent intervention required to reconstitute their reserves. Thus, a reserve-reconstitution provision—because it is likely either to inhibit nonaggressive intervention or to require aggressive intervention—would probably increase the volatility of floating currencies.

In conclusion, the evidence to date indicates that competitive manipulation of exchange rates has not been a major difficulty of managed floating. On the other hand, unnecessarily large fluctuations of rates have been a significant problem during the period of generalized floating. It does not appear appropriate, therefore, to focus intervention rules prima-

rily on the dangers of management, at the cost of weakening the safeguards against the problems of floating. Limitations on intervention such as those proposed by Mikesell and Goldstein appear particularly inappropriate when private participants in the exchange market are considered likely to overreact to economic or political news, or when they are constrained in their ability to provide stabilizing capital flows.

Standards for Indirect Means of Influencing Exchange Rates

Although exchange rates are affected to some degree by most economic programs undertaken by governments, it is not necessary to consider the full range of public policies in assessing means of intervention. It is sufficient to concentrate on official actions that produce significant and relatively rapid impacts on exchange rates and on programs that decrease the sensitivity of the foreign sector to policy or market variables. Official programs that substantially influence exchange rates should be judged by their impacts on the objectives and means of the international monetary system. Under the heading of objectives, it is necessary to ask how particular forms of exchange-rate management will affect the flow of goods, services, and assets across national frontiers. Under the heading of means, or the exchange-rate regime, it is necessary to ask how different types of intervention will affect the potential difficulties of managed floating.

Current-Account versus Capital-Account Restrictions

The IMF's Articles of Agreement and the GATT-sponsored rounds of tariff cutting reflect a consensus among the industrialized countries that the benefits of international commerce warrant a progressive lowering of trade barriers. There have been several detours on this post-World War II road to free trade. During the pegged-rate era, Canada (1962), Britain (1964), and the United States (1971) introduced temporary, but generalized, tariff surcharges when their respective currencies were under downward pressure in the exchange market. During the floating-rate period, as well as during the Bretton Woods years, several major countries have adopted selective protectionist policies to assist depressed import-competing industries. But these detours do not obscure the consensus. It therefore appears appropriate, as in the fifth of the IMF's guidelines on floating, to prohibit the use of current-account restrictions to manage floating currencies.

Italy is the only member of the Group of Ten that has introduced gen-

eralized controls on current-account transactions to manage a floating exchange rate. From May 1974 until April 1975, Italians had to make a six-month non-interest-bearing deposit in order to import an extensive list of commodities. In May 1976, after the lira had lost approximately 25 per cent of its value against the U.S. dollar, measured from the end of 1975, the Italian government again instituted a temporary import-deposit scheme, this time a three-month deposit (later extended for an additional three months) on all imports except grains. At the time, Italian officials, in an effort to mitigate the adverse leads and lags of their trade balance, also required exporters to convert foreign-exchange receipts into domestic currency within seven days. These current-account restrictions were accompanied by the highest interest rates among the principal industrialized countries and stringent, but not altogether successful, limitations on capital outflows. From October 1976 through February 1977, Italy also imposed a tax (initially 10 per cent, but lowered in successive steps before its termination) on purchases of foreign exchange by residents.

Although it appears that the major trading nations are committed in principle to liberalizing trade flows, no such apparent consensus exists for capital movements. During the Bretton Woods period, and into the floating-rate era, capital flows have often been regulated with the sanction, and sometimes the encouragement, of other nations and international organizations. To devise standards for managing floating currencies, it is necessary to decide on the degree of freedom to be accorded countries to influence capital flows, since such policies constitute a principal means of exchange-rate management.

There are similarities between capital- and current-account transactions that might argue for comparable treatment. For example, allocative efficiency, as it bears on thrift and productivity, provides one justification for freedom of capital flows, just as the allocative principle of comparative advantage justifies freedom for trade flows (see Williamson, 1973, for a useful synthesis of the motives and welfare effects of international capital flows). An unrestricted international exchange of assets also offers the potential benefit of decreasing risks through portfolio diversification.

There are, however, significant dissimilarities between the two accounts—differences that partially explain why officials normally find capital controls more acceptable than current-account restrictions. The capital accounts of the major trading countries are likely to contain larger proportions of public-sector transactions (such as official borrowing or lending) than are current accounts. In the present state of mixed capitalism

practiced in many industrialized Western nations, authorities may consider it more suitable to regulate their own, rather than the private sector's, undertakings.

Additionally, capital flows appear, on average, more likely to involve negative externalities than do trade flows. For example, the new theory of direct investment emphasizes the existence of market imperfections or regulations that make overseas subsidiaries profitable, but governments often consider foreign domination of major sectors of their economies to be against the national interest. Differing national tax systems and the potential for environmental damage may create divergences between private and social benefits and costs. And capital movements may be undertaken to escape local taxes or as a result of domestic political turmoil. Even when capital flows respond to the forces of thrift and productivity, there may be unwelcome repercussions, such as the previously mentioned large swings of exchange rates caused by changing interest-rate differentials.

At present, there appears to be no definitive answer to where—between the balance on goods and services and the balance on reserve transactions—a line should be drawn to define legitimate interference in the international accounts. (This is, of course, an indication of the difficulty of using Meade's adjectives—autonomous and accommodating—to describe actual balance-of-payments items.) The following discussion of indirect means of influencing exchange rates addresses this issue of the heterogeneity of capital flows, as well as the effects of capital-account management on a regime of managed floating. The specific policies examined are those contained in the Committee of Twenty's list of permissible "actions to influence an exchange rate": official foreign borrowing, monetary or interest-rate policies, fiscal interventions and capital restrictions, and separate exchange markets for current and capital transactions (IMF Press Release No. 74/30, June 13, 1974, p. 4).

Official Foreign Borrowing

For purposes of exchange-rate management, it is useful to divide foreign borrowing into two categories: borrowing in foreign markets that is a continuing and normal feature of some countries' international accounts, and foreign loans undertaken to meet unexpected and large increases in import payments or decreases in export receipts. Canadian provincial borrowing in the New York and Eurocurrency markets provides an example of the first type of borrowing. The second category is illustrated by the large Eurocurrency loans that the British, French, and

Italian governments and public authorities negotiated during 1974 and 1975 to pay for oil imports. The Bank of Japan added a special nuance to official foreign borrowing during 1974: the central bank encouraged its commercial banks to borrow abroad to obtain the dollars needed to meet increased oil payments.

Because foreign loans to meet drastic and abrupt changes in the balance of trade can be considered a proxy for or means to accomplish market intervention, such borrowing should normally be judged by the same standard of nonaggressiveness considered suitable for market intervention. The Japanese and European borrowings of 1974 and 1975 meet this criterion, because these loans were undertaken when the borrowing countries' currencies were generally depreciating. The most that the disbursement of such loans could do was to slow down the depreciations, thereby buying time for an orderly adjustment to changed international conditions. Since large fluctuations of exchange rates have been a major problem of managed floating, this dampening of rate movements should have been considered a salutary effect of foreign borrowing to meet the oil-payments crisis.

Nevertheless, it might be asked whether the higher exchange rates made possible by this borrowing constituted "competitive appreciation" during an inflationary period. It now appears that such borrowing led, temporarily, to overvalued exchange rates in countries that had relatively high inflation rates and had experienced structural balance-of-payments deficits before the oil crisis. However, even if one grants that the maintenance of overvalued exchange rates by foreign borrowing is a competitive practice during an inflationary period, the difficulty appears largely self-limiting. Considerations of creditworthiness and debt-repayment potential soon become paramount with private lenders. Eventually, official lenders are needed to match official borrowers—a circumstance that limits competitive behavior.

It does not appear suitable to apply the criterion of nonaggressiveness to official foreign borrowing that is a continuing and significant element in a country's international accounts. Application of this standard would limit official foreign borrowing to periods when the borrowing country's floating currency was depreciating. This would be a severe restriction on a government's ability to raise capital abroad and would involve the implicit assumption that all such borrowing is undertaken for balance-of-payments purposes.

Another possibility is that continuing foreign borrowing should be regarded as being only incidentally international. It could be argued

that if governments choose (or find it necessary) to borrow on international rather than domestic capital markets, the monetary authorities should have the right to purchase the foreign-currency proceeds, thereby neutralizing the exchange-rate effects of their borrowing. This argument, however, would justify aggressive intervention in the market if the domestic currency were depreciating; the monetary authorities would be buying foreign exchange and causing the domestic currency to depreciate further.

An interesting analysis of this issue, particularly as it relates to Canadian provincial borrowing, has been offered by Wonnacott (1972).⁴ He notes that one cannot decide definitively whether central banks should be permitted to buy the foreign-exchange proceeds of official foreign loans without a judgment on the appropriate structure of the borrowing and lending countries' balances of payments. Fortunately, this has not been an actual problem during the floating-rate period; in particular, Canadian intervention has been nonaggressive.

In the general case, and if a medium- to long-term perspective is taken, the current-account balance rather than the balance on official reserve transactions is the appropriate counterpart to a continuing official capital flow. If this premise is granted, governments undertaking substantial and continuing foreign borrowing or lending should be subject, without special exceptions, to the rule that permits only leaning against the wind in the exchange market.

Monetary or Interest-Rate Policies

Monetary policy, in addition to being a principal tool of domestic stabilization programs, is normally one of the strongest and most rapid means of influencing exchange rates. Conversely, the possibility of removing the external constraint on monetary policy is often given as a principal advantage of floating over pegged exchange rates. The experience since March 1973 provides a synthesis of these two aspects of monetary policy under a floating-rate regime. The monetary independence permitted by the absence of par values is not costless; instead, its pursuit may at times produce undesirable repercussions on another major macroeconomic variable, the exchange rate.

It would obviously be inappropriate to apply the standard of nonag-

⁴ See Chap. 6 for a comprehensive treatment of this issue, including the question of whether, under certain institutional circumstances, foreign borrowing might be considered basically a domestic transaction.

gressive intervention to monetary policy. Such a rule would allow a country to follow an expansionary monetary policy only when its currency was appreciating and a contractionary monetary policy only when its currency was depreciating—an unacceptably stringent constraint on a major tool of domestic demand management. In addition, the protection afforded by a rule of nonaggressive intervention is not needed to avoid adverse effects on international commerce if monetary policy is used competitively. This property of monetary policy can be illustrated by applying the response-in-kind criterion developed by Wonnacott to evaluate different types of intervention aimed at obtaining competitive advantage in the exchange market. This standard asks what would happen to global welfare if all (or most) countries tried to improve their trade balances by using the same form of exchange-rate management. Wonnacott (1972, p. 82) explains that if, during a recessionary period, a major country attempts to cause a depreciation of its exchange rate by resort to expansionary monetary policy, and "... trading partners respond in kind through monetary expansion of their own, then exchange rate effects will tend to cancel out, but there will be an overall expansion of demand and employment in the world economy."

The rating of monetary policy with respect to the intrinsic difficulties of floating is less clear. Divergent and changing national monetary policies have already been mentioned as a principal cause of some of the large swings of exchange rates during the floating-rate era. However, at times during this period, some countries have used interest-rate policies effectively to moderate movements of their exchange rates.

In summary, the competitive use of monetary policy to reach mercantilist goals should not be injurious to international commerce, but exchange rates may be quite variable if countries with floating currencies follow different and changing interest-rate policies. Although the exchange-rate effects of monetary policy do not justify restrictions on this major tool of domestic stabilization programs, it is useful to consider other means of mitigating the potentially adverse effects on exchange rates of divergent monetary policies.

One method would be increased harmonization of monetary policies among major countries; another would be greater reliance on tools other than monetary policy for domestic stabilization programs. Both suggestions involve a tradeoff between the degree of monetary independence permitted by floating rates and the undesirable exchange-rate consequences that may occur when major nations use this independence. Indi-

vidual countries, differing in the openness of their economies and the flexibility of their other stabilization tools, may perceive this tradeoff quite differently.

A third method of dampening exchange-rate swings caused by changing interest-rate differentials is nonaggressive intervention in the exchange market. To moderate or smooth exchange-rate fluctuations is indeed the basic rationale for permitting countries to pursue policies of leaning against the wind. A fourth means of decreasing exchange-rate swings is the increased use of restrictions on capital flows, the next form of intervention to be discussed. As will be seen, however, some types of capital controls appear likely to increase, rather than decrease, the volatility of floating currencies.

Fiscal Interventions and Capital Restrictions

These two means of regulating the capital account find their current-account counterparts in tariffs or subsidies (the counterparts of fiscal interventions) and quotas or embargoes (the counterparts of capital restrictions). The following discussion abstracts from considerations of relative efficiency—whether to use the price mechanism (fiscal interventions) or quantitative controls (capital restrictions). It considers both types of policy as a single means of affecting exchange rates.

There is no one way of assessing the impact of capital restrictions and fiscal interventions on the well-being of the international economic community. The result depends upon several factors: the nature of the thwarted or induced capital flows, whether the interference constitutes competitive manipulation of exchange rates, and whether the controls increase or decrease the variability of floating currencies. Many types of long-term capital movement appear to be beneficial to both capital-exporting and capital-importing countries, even after allowing for negative externalities; so are short-term flows to and from countries that act as financial intermediaries. Consequently, limitations on such movements for purposes of exchange-rate management should be discouraged. By this standard, the dismantling of U.S. controls on capital outflows in late 1973 and early 1974 and the simultaneous removal of German restrictions on long-term capital inflows should be considered constructive. Ideally, the introduction of controls that would be needed anyway, for example to avoid adverse external effects, or the termination of restrictions that never were, or have ceased to be, socially advantageous should be timed to take account of their effects on floating currencies. The U.S. and German decisions to decontrol produced the beneficial side effect of

moderating fluctuations in the mark-dollar exchange rate, because the impediments were removed when the dollar was relatively strong vis-à-vis the Germany currency.

For some countries, controls on short-term capital flows appear an acceptable means of managing floating currencies. In such cases, a standard of nonaggressive intervention—restricting capital inflows or encouraging capital outflows when the exchange rate is appreciating and reversing the procedure when the rate is depreciating—should reduce the risk of competitive manipulation of exchange rates. However, some forms of short-term controls, particularly limitations on banks' open positions in foreign exchange, may exacerbate the other major difficulty of managed floating—the substantial variability of rates. As previously noted, the existence of restrictions that limit banks' activities provides one reason for permitting officials to undertake nonaggressive intervention.

Since March 1973, capital-account controls introduced by the major trading nations have been primarily on short-term flows and nonaggressive in direction; as a consequence, these restrictions do not appear to have raised the threat of competitive exchange-rate practices. Several European countries instituted controls on short-term capital inflows during the spring of 1973 when the U.S. dollar weakened on international markets. With the onset of the oil crisis, several major countries, including France, Italy, and Japan, inaugurated limitations on capital outflows. Switzerland is the prime example of a country that has maintained many old restrictions on capital inflows and instituted several new ones during the floating-rate era.

Separate Capital-Exchange Markets

In its listing of permissible means of managing floating currencies, the Committee of Twenty mentioned a special type of capital-account regulation—dual exchange markets. Split markets normally permit current-account transactions to take place at an officially managed (or pegged) rate and channel most capital-account transactions into another market relatively free from official intervention.

In practice, the use of separate exchange markets has not been important in the management of floating rates. The disadvantages of dual markets appear to have limited their spread among developed nations, and floating rates have undercut a major reason for segregating trade and capital transactions. The disadvantages include the difficulty of separating the two markets; the fact that speculation can take place in the current account by variations in leads and lags; the introduction over time of

distortions in the relationship between foreign trade and capital movements; the significant administrative costs; and the many opportunities for profitable fraud and evasion that split markets offer.

During 1974, both France and Italy dismantled their split exchange markets. The Bank of Italy explained that it was reunifying its exchange markets because it had been virtually impossible to keep the two floating lire substantially apart without inviting significant fraud and evasion. Switzerland reportedly considered, but decided against, splitting its exchange market to insulate the trade sector from capital inflows. Belgium, which adopted dual markets in 1955, is the only member of the Group of Ten that currently maintains comprehensive segregation of its capital-account and current-account exchange markets.

Split markets appear, on balance, a costly and inefficient technique for isolating trade flows from the exchange-rate consequences of capital movements. In terms of the difficulties of managed floating, the principal problem raised by segregated markets is that each of the separate markets may be less broad and deep, and exchange rates may therefore be more volatile. A rule permitting only leaning against the wind in either or both markets should provide sufficient protection against predatory exchange-rate practices when markets are split. However, the rule should normally allow for a larger quantity of moderating intervention in the market for current transactions than in the one for capital flows.

Summary and Conclusions

Since March 1973, officials of the principal industrialized countries have used diverse policies to manage their floating exchange rates. The most important of these have been purchases and sales of spot foreign exchange, controls on capital inflows and outflows, official foreign borrowing, and interest-rate policies. In this essay, direct and indirect means of managing floating currencies have been assessed in terms of their impacts on international commerce and their effects on the difficulties inherent in a system of managed floating. These difficulties are the dangers of management (competitive manipulation of rates and the maintenance of an outdated exchange rate) and the problems of floating (excessive fluctuations of rates and the establishment of inappropriate exchange rates in the private market).

One conclusion is that a rule permitting countries to lean against the wind in the spot and forward exchange markets provides reasonable protection against both of the potential difficulties of managed floating.

Two characteristics define a policy of leaning against the wind. First, only intervention in a nonaggressive direction—that is, opposing rather than reinforcing market movements of rates—is permitted. Second, the magnitude of intervention should not be so large as to freeze an exchange-rate status quo. If officials choose to split their exchange markets, the standard of leaning against the wind should apply to intervention in both the current and capital markets.

The suggested rule also requires that intervention normally be symmetrical, that is, of comparable size when an exchange rate moves in either direction. However, asymmetrical intervention should be permitted to adjust large or small stocks of reserves or to permit long-term growth in reserves. Surveillance of countries' compliance with these standards requires that governments issuing widely traded currencies periodically exchange detailed data on reserve changes and intervention in spot and forward markets.

It does not appear appropriate to impose supplementary temporal or quantitative restrictions on countries' intervention prerogatives, particularly additional rules directed toward assuring that market intervention will be highly symmetrical. Such standards increase the likelihood that floating rates will be volatile. Furthermore, since countries can influence their exchange rates by other means, additional limitations on market intervention cannot prevent competitive manipulation of rates.

There appears to be substantial agreement that, as a result of the benefits accruing from international commerce, trade flows among industrialized countries should be progressively liberalized. Accordingly, current-account restrictions should be considered an inadmissible form of exchange-rate management. The case for and consensus on freedom of capital movements is not as well developed. There are categories of financial flows that appear beneficial to both capital-exporting and capital-importing countries, and these capital movements should not normally be regulated for purposes of exchange-rate management. For some countries, however, controls on short-term flows of interest-sensitive or speculative capital appear to be an acceptable means of managing floating currencies. A standard of nonaggressive intervention should decrease significantly the danger of competitive manipulation of rates through official interference with capital flows. This standard of nonaggressiveness should also apply to official foreign borrowing when it can be considered a proxy for exchange-market intervention.

Because interest rates and exchange rates are closely related, monetary policy is normally a powerful means of influencing exchange rates. Even

so, there are two arguments against limiting the use of monetary policy, in view of its potential effects on exchange rates. First, monetary policy is a principal tool of domestic stabilization. Second, it is not a policy whose generalized competitive use, say to obtain an export surplus during a period of global recession, should be damaging to international trade. The pursuit of independent monetary policies when currencies are floating may nevertheless lead to significant oscillations of exchange rates. This potential side effect of divergent monetary policies provides a reason for permitting leaning against the wind in the exchange market itself. Another justification for nonaggressive market intervention is the existence of short-term capital controls that may inhibit stabilizing capital flows from the private sector.

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