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Volume Author/Editor: Anne O. Krueger

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Chapter Author: Anne O. Krueger

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Chapter 10

Determinants of the Outcome of Phase III Episodes

The nature of the devaluation packages, the initial responses to those packages, and the behavior of export earnings with respect to altered real EERs and other variables have now been examined. This chapter will consider one of the basic questions underlying the entire NBER project: What factors determine whether a country undertaking a devaluation and liberalization of its trade and payments regime is likely to enter upon a period of sustained and continuing liberalization in Phase IV or whether it will reenter Phase II?

The question of the determinants of whether Phase IV will be sustained is logically separate from issues relating to the benefits of the Phase IV regime for two reasons. First, countries embarking on Phase III episodes have presumably already determined that alteration of the trade and payments regime is desirable (or unavoidable). Second, if it is possible to identify the effects of various measures on the probability of sustained liberalization and estimate the costs of those measures, countries can weigh these estimates against estimates of the benefits and decide whether the attempt is worthwhile.[1] The benefits of successful devaluations—that is, those resulting in Phase IV regimes—upon economic growth, per capita income, income distribution, and other desiderata of policy are the subject of Part IV of this volume. Judgment as to whether an attempt to liberalize is worthwhile cannot be considered until the benefit, as well as the cost, side of the equation is estimated.

The first section of this chapter surveys the Phase III successes and failures among the ten study countries. There are a number of conditions surrounding a devaluation which inevitably affect its prospects for success and make the transition difficult; those considerations are the subject of the second section of this chapter.

In general, growth of export earnings is a necessary condition for a sustained Phase IV or V trade and payments regime. While such growth can result in part from chance, it usually requires a realistic real exchange rate for exports and reasonable assurance that such a rate will be maintained. The third section of this chapter considers two ways in which these conditions can be achieved: (1) demand management policies can be used to contain the level of aggregate demand so that the domestic rate of inflation does not exceed the world rate; or (2) a policy can be adopted—either the sliding peg or adjustment of export subsidies—under which the real EER is maintained, in spite of a higher rate of inflation in the home country than in the rest of the world. Generally, it seems preferable to adopt a sliding peg, which can be effective regardless of whether demand management is successful.

Even if the real EER is maintained over a long interval, a successful move to Phase IV requires reallocation of resources in accordance with the shift in incentives in the domestic economy. That requires a period during which the altered bias of the regime is maintained before foreign exchange earnings start growing. In that interval, which may be longer or shorter, depending in part upon past history, the country must be able to sustain the liberalization and bias reduction; this, in turn, implies that either the demand for imports must shift downward or the flow of imports must increase. There are, in general, two ways of bridging this interval: either foreign credits can increase the flow of imports, or domestic recession can cut back the demand for imports. The trade-off between various means of maintaining the regime in the transition period and other aspects of macroeconomic policy are the subject of the final section of this chapter.

I. SUCCESSES AND FAILURES

The only criterion for "success" used at this point is whether a sustained Phase IV liberalization followed each Phase III episode. This begs the question of how long Phase IV must have lasted in order to judge the liberalization as having been "sustained." It was seen in Chapter 9 that there were only four cases where liberalization was maintained in the longer run. Here, focus is on intermediate-term success.

A simple count shows that there were eight Phase III episodes that reverted to Phase II without any intervening Phase IV period. Those eight instances—Brazil in 1957 and 1961, Chile in 1956 and 1965, Colombia in 1962, Egypt in 1962, India in 1966, and South Korea in 1961—must be judged clear-cut failures. At the opposite extreme there were six instances of Phase III episodes that were followed by Phase IVs lasting five or more years; these included Brazil in 1964, Colombia in 1967, Israel in 1952 and 1962, South Korea in 1964, and the Philippines in 1960. Israel's 1962 episode is peculiar, but it

will nonetheless be regarded as a success. In addition, the Philippine and Turkish devaluations of 1970 were followed by Phase IV regimes that lasted to late 1974, and therefore can be placed in the intermediate-term "success" group. One other devaluation must almost certainly be classed as a success: Turkey in 1958, where Phase IV lasted for four years, and the restrictiveness of the remaining exchange controls was substantially reduced.

In the five remaining instances—Chile in 1959, Ghana in 1967, and Colombia in 1951, 1957, and 1965—Phase IV followed Phase III, but it was short-lived. In the first three of these cases, an important factor in maintaining Phase IV was an improvement in the price of a major exportable, which increased foreign exchange earnings without a significant change in the volume of exports. While those instances resulted in some liberalization for a time, it is probably preferable for present purposes to lump them with the "failures" because exogenous factors primarily supported whatever liberalization did occur, and domestic resources were not reallocated on any sustained basis.

Altogether there are thirteen instances deemed failures and nine that can be termed successes in an intermediate-term perspective. As mentioned in Chapter 9, any "count" is biased in that Phase III occurs again only after "failure." Nonetheless, in a large number of cases devaluation and the measures accompanying it did not bring about more temporary changes. The important question is what factors determined the success or failure of these Phase III efforts.

II. THE INITIAL TRANSITION PERIOD

Background to Devaluation

In general, Phase III starts at a time when foreign exchange reserves have been depleted, additional foreign credits are available only at unacceptable terms, and debt rescheduling is essential. In addition, exports and other sources of foreign exchange earnings are often declining—or at least rising very slowly—because of the erosion of the real exchange rate and perhaps also because future exchange rate changes are anticipated. The scarcity of foreign exchange has usually resulted in a predevaluation flow of imports well below that desired by the authorities, even after taking into account industrialization and other domestic goals. In fact, in many instances the predevaluation flow of imports is well below the level that would be desired even at an equilibrium exchange rate.

At the time the devaluation is undertaken, therefore, the economy is often import-starved and a near-crisis atmosphere prevails. That situation itself creates a number of difficult problems:

1. Rational decisionmaking is not necessarily done best under the impetus of crisis. The crisis atmosphere necessarily makes it difficult to put together an appropriate set of policy measures. In addition, public discussion of the options surrounding devaluation is a virtual impossibility because of the currency speculation that would thereby be encouraged.

2. Partly as a consequence of the underlying economic situation, but also for other reasons, opposition political groups may find the devaluation a focal point for political attack upon the government and use it to rally support against the government. Even if the threat of such action does not deter a country's leaders, the result of such opposition is to weaken the government just at the time decisive action is necessary, when the government must be able to convince individual economic units that its liberalization program will succeed.

3. Expectations that liberalization will not continue may lead to speculative inventory build-ups that drain foreign exchange holdings. Against the background of foreign exchange shortage and import scarcities, eliminating the premium on import licenses may be a sine qua non for any chance of success. Even then it may be only after the government has maintained the liberalization over a period of several months that expectations of continued liberalization will form. During that period, speculation against future import licensing restrictions may generate an above-normal demand for imports.

4. Liberalizing imports immediately requires financing. The exchange rate change itself will usually not be large enough to absorb all premiums on import licenses, and export earnings cannot be relied upon to increase immediately. Liberalization beyond the amount permitted by the exchange rate change can be achieved only if some source of support for an increased flow of imports can be found, if income falls, or if tariffs increase. Moreover, debt rescheduling is often an urgent necessity, and a prior condition, for any satisfactory resolution of the payments problem.

Expectations

This list of problems is formidable in the best of circumstances, but difficulties are likely to be all the more pronounced, the more frequent have been unsuccessful Phase III episodes in the past. That leads to the first proposition about the probability of successful transition to Phase IV: successful transition will be easier, quicker, and less costly—all else being equal—in those countries where past Phase III episodes have been successful. Conversely, transition to a sustained Phase IV will be most difficult in those situations where there are past histories of repeated, unsuccessful Phase III episodes.

Initially such a proposition may sound self-contradictory—successful Phase III episodes are less likely to end in an exchange control situation that

will eventually require another Phase III episode. Yet several countries in the project had exactly that experience. The Philippines, for example, enjoyed sustained liberalization and then a Phase V regime for years after her 1960 devaluation; in 1969, excessive government expenditures and money creation resulted in huge excess demand pressures, and exchange controls were reintroduced, reinaugurating a Phase II regime. When the government devalued and liberalized in 1970, the reaction was remarkably fast, and the Philippines quickly reestablished a very liberal trade and payments regime. The Turkish devaluation of 1970 may have been somewhat similar. Despite the fact that Turkey had a fairly strong bias toward import substitution, the 1958 devaluation was followed by a long period of export growth as the real export EER was maintained at satisfactory levels. After the 1970 devaluation, memories of the success of the 1958 devaluation in drying up import license premiums and in liberalizing the regime undoubtedly helped in a smooth transition to Phase IV.

At the opposite end of the spectrum, all three of the Latin American countries covered by the project had a history of devaluations between which exchange control regimes persisted. In all three, therefore, it was to be expected that responses to altered real exchange rates would be slow, partly because the new rates were not expected to last. In the Brazilian case, as Fishlow notes, there was a mild tendency toward greater liberalization and smaller bias in the regime even prior to the 1964 devaluation; despite that, a protracted Phase III period followed. Likewise, Behrman concludes that Chile would experience significant difficulties in attempting to liberalize.

> Given three liberalization and four stabilization failures in less than two decades, cynicism about the probability of success of any gradual attempt is liable to kill it before longer-run benefits appear. . . .[2]

Behrman therefore concludes that, in the Chilean case, a sharp and abrupt transition would be desirable to improve the chances that expectations would be altered. The question of whether there should be a gradual or an abrupt transition depends on a large number of factors, but a sharp, sudden switch appears to be more justified, the more difficult it appears to be to alter expectations.

Political Considerations

The transition to Phase IV is certain to be accompanied by some difficulties. They may or may not be the outgrowth of the devaluation program, but the program will nonetheless be blamed for whatever goes wrong. In India, for example, devaluation was preceded and followed by exceptionally poor crop years, but the subsequent increase in food prices was widely blamed on

the devaluation; Bhagwati and Srinivasan's estimates indicate that the entire increase in prices of food grains can be explained by the poor harvest, income behavior, and other variables not directly connected with the devaluation.

Apart from exogenous shocks, some dislocation is an inevitable by-product of devaluation. If import-substitution becomes less profitable—as it must—some entrepreneurs are bound to suffer reduced profits, if not losses. Price increases, even if they result from past inflationary pressures, may lower the real incomes of one or more segments of the community. Simultaneously, merchant importers are almost certain to be worse off. Reduction in the variance in differential incentives will also adversely affect some industries and sectors. These difficulties will be more easily handled if there is political consensus about the desirability of the liberalization, for then opposition will be more muted and less able to reverse the liberalization program before it has a chance to produce longer-term results.[3]

The same considerations suggest that a strong government is more likely to be able to carry out a devaluation and liberalization program than will a weak government, although the fact is, of course, that some packages are more politically palatable than others. The Brazilian government, for example, was strong when it embarked on the liberalization and inflation-reduction program in 1964, and undoubtedly a weaker government could not have withstood the political pressures resulting from the recession. Fishlow argues, however, that it would have been possible to achieve the same degree of liberalization and to shift incentives from import substitution to export promotion without the very drastic deflationary measures that accompanied Phase III. Thus, while it is true that the Brazilian government had to be firmly in power to carry out the transition the way it did, it does not automatically follow that a somewhat weaker government could not have followed an alternative path of transition to Phase IV.

The desirability of political consensus is also illustrated by an opposite sort of experience—that of Turkey in 1958. There was widespread agreement that the inflation Turkey was then experiencing was intolerable and had to be stopped. Meanwhile, the Menderes government had been forced to accept an IMF-imposed stabilization program, including ceilings on government expenditures and bank credits, in order to receive foreign credits to support the liberalization of imports in August 1958. It is reasonably evident that the government's acceptance of those conditions was based on its dependence on foreign loans, rather than its underlying convictions. In mid-1959, therefore, the government started violating IMF-imposed ceilings, and the inflationary pressures of earlier years began to reemerge. Partly in consequence, there was a widely supported coup in May of 1960, and successive governments thereafter were committed to the goal of price stability and rational management of aggregate demand.

It does not seem possible to draw any simple conclusion about the importance of political consensus. The Philippine government of 1960, for example, cannot be characterized as having been overly strong, nor can the South Korean government of 1964, despite the later evolution of those two regimes. Conversely it would appear that the Ghanaian government of 1967 and the Brazilian government of 1957 were both at least as strong as several other governments where the Phase III episode was successful.

It is possible to say that exogenous events have a strong impact, either offsetting or enhancing economic discontent. All else equal, successful transition to Phase IV will be more likely, the more favorable are such exogenous events as changes in the country's terms of trade and harvest conditions. While these cannot always be forecast, weather conditions usually are known, and it is also possible to wait until information becomes available. Terms of trade changes are perhaps more difficult to foresee. A good harvest helps in several ways. It increases real incomes in rural areas and also in those urban sectors that service agriculture; it helps to prevent prices from increasing too much, partly offsetting any tendency toward inflation that might result from devaluation; and good crops usually permit greater exports, which in turn finance more imports. Favorable changes in the terms of trade have comparable consequences. The potential real income of the country is increased, and any such increase can be employed to finance additional imports. All of these favorable factors reduce the number and magnitude of injurious side-effects of devaluation and dampen adverse political reaction to it.

In general it would appear that transition to Phase IV is easier against a background of rapid growth of real income and of increases in the import flow. More rapid growth of real income may lessen the dislocations associated with resource reallocation, thereby reducing political discontent, while greater benefits from additional imports may be a visible "good" effect of devaluation. This points to a conclusion that has emerged repeatedly: the process of transition will be easier, and therefore more likely to result in sustained liberalization, if import flows increase following devaluation; if devaluation must be accompanied by a cut in real imports, it will be much more difficult. Many of the Latin American Phase III "failures" started at a time when imports were high and had to be reduced. The belt-tightening that is necessary for success of devaluation with a convertible currency—but makes it so painful—was therefore an important concomitant of those devaluations and made them more difficult to handle politically.

Predevaluation Inflationary Pressures

Macroeconomic considerations play a great part in determining which set of policy instruments is most appropriate to a specific Phase III situation. Inflationary pressures, in particular, are an important element in shaping the character of the Phase III situation itself. That is because the emergence or

severe intensification of excess demand prior to, or at the time of, devaluation is very likely to be fatal to the devaluation program. Moreover, such an increase in pressures is also very likely to result in a heightened rate of inflation following devaluation, itself sufficient to erode the alteration in the real exchange rate.

Perhaps more important is that excess demand within the domestic economy at the time of devaluation is very likely to slow down the process of resource reallocation compared to the adjustment time if domestic demand were appropriately managed. That consideration, of course, is closely related to the role of expectations: at a time when the rate of price increase is accelerating, businessmen have difficulty in distinguishing changes in relative prices from movements in the aggregate price level.

In the real world one never finds ideal conditions. While it would be folly for a government to wait for the conjunction of preexisting stable demand, improved terms of trade, and a favorable harvest, a devaluation when the inverse conditions coincided would be exceptionally unfortunate. Thus, while judgment always has to be used in deciding upon timing, it can be argued that if it appears that the trade and payments regime will have to be altered anyway within, say, an eighteen-month period, the decision as to whether to act this year or wait until next year might be based on the crop outlook and on the state of world demand for the country's major exports. Given the difficulty that unsuccessful Phase III episodes create for future attempts to alter the trade and payments regime, it may well be that prolonging the economic costs of Phase II until underlying conditions are more favorable for a Phase III effort can be justified by the higher probability of ultimately achieving a successful transition to Phase IV. Of course, demand conditions are not entirely exogenous insofar as the government makes decisions concerning monetary and fiscal policies. A decision to postpone exchange rate realignment in hopes of better conditions at a later date should be accompanied by relatively restrictive demand-management policies if chances of success are to be improved.

Among the countries included in this project, Ghana appears to have had the most favorable initial conditions. Macroeconomic policy had already been deflationary for a year; the world price of cocoa was rising rapidly; and, as far as can be judged, the government seems to have had little opposition to its policies. Yet the Ghanaian liberalization effort failed for a number of reasons. Chief among them was the government's highly expansionary monetary and fiscal policies under a fixed exchange rate in the several years following devaluation. Indeed, the extent to which initial conditions were favorable is indicated by the length of time that liberalization was sustained despite the fact that the real exchange rate had returned to its predevaluation level within two years of the Phase III episode. Had underlying conditions been less auspicious, the Ghanaian government would have been forced to resume Phase II controls at a much earlier date than, in fact, happened.

The Indian devaluation represents the opposite situation; initial conditions and exogenous events were exceptionally unfavorable. It is virtually impossible to conceive of a set of policies that could have permitted a transition to Phase IV in view of the droughts and poor harvests that preceded and followed devaluation. The poor crops were inevitably going to reeduce supplies available for export, increase import requirements, and raise domestic prices for food grains. In view of those circumstances it can be argued that India's Phase III episode was doomed even if the government's commitment to liberalization had been considerably stronger than it was.

Role of Foreigners

Accumulated debt service obligations often were the proximate factor triggering a devaluation decision. In many instances, countries not only rescheduled and postponed existing debts but also borrowed additional funds to finance the increased flow of imports that supported the liberalization. It will be argued that additional borrowing is the alternative to greater domestic recession (or less liberalization) and can have a high rate of return. At present, the focus is on a somewhat different aspect: the role of foreigners in forcing the devaluation decision and the effect of their preparation on the prospects for a sustained liberalization.

Because borrowing enables a Phase II regime to survive longer than would otherwise be the case, it is not surprising that foreign debt and foreign borrowing are a part of most devaluation experiences. The analogy to personal finance is useful: an individual can live beyond his means for a period of time by borrowing to finance consumption, but if he does not voluntarily reduce his consumption below his income level at some point, his creditors will begin to demand repayment or impose steeper terms on additional borrowing; if spending beyond income continues, the creditors are forced to demand payment. Creditors are unpopular in such circumstances and that fate has often befallen the international agencies that have insisted on devaluation and other measures as a prerequisite for debt rescheduling or additional loans.

Despite foreign involvement in so many devaluations, few generalizations emerge. In some instances, foreigners were invited in, as with the Klein-Saks mission to Chile in 1956, and yet resentment was considerable. Behrman reported that

> . . . the identification of the 1956-58 attempt in particular with foreign interests discredited this program in the eyes of many Chileans. In part this identification was with official foreign agencies, especially the IMF. Much more of this identification, however, was associated with Klein-Saks. . . . Subsequent criticisms of the overall program . . . have been directed in large part toward Klein-Saks. The

net result has been an overemphasis on the role this mission actually played, and further avoidance of the basic underlying issues.[4]

In contrast, foreign creditors played a sizable role in the Turkish devaluation of 1958, and yet there was strong popular backing for the stabilization program. In India the negative political reaction to the role of foreigners was so strong that Bhagwati and Srinivasan devote a large portion of their analysis to it. Political attacks on devaluation centered on the role of foreigners in forcing it and ignored the fact that the economic arguments for devaluation in India were overwhelming—and probably had been so for several years. In Colombia the President even went on national television to announce that he would *not* yield to foreign pressures. On the other hand, foreign participation does not seem to have been an issue in Ghana, the Philippines, or South Korea.

Although political reaction to devaluation is inevitable, it seems clear that foreign identification with the devaluation decision provides a focal point for the government's critics, providing a far stronger and emotionally more appealing case than would otherwise be possible. It is also possible that domestic politicians may find it to their advantage to claim that foreigners "forced" them to devalue, although yielding to foreign pressures is not always a politically acceptable stance either, as was the case in India.

It is tempting to conclude that creditor countries ought not to "force" or "urge" a devaluation and should wait until domestic political pressures are backing it. This has happened on occasion when countries have sought loans and have been turned down. On other occasions, donors have chosen terribly poor timing, even though they were fundamentally correct in insisting upon devalution. Díaz, for example, believes that the exchange rate changes which were being urged upon Colombia in 1966 would have been badly timed had they been carried out then.[5] In retrospect the timing of the Indian devaluation was disastrous and—at a minimum—it can be argued that a delay of several months until the probable size of the harvest was known would have been well warranted.

The difficulty with urging creditors to abstain from insisting upon devaluation is that their very refusal to extend new credits can provide a sufficient lever to force action—the donors are as trapped as the recipients. The logical corollary would be for creditors to accede to all requests for debt postponement and new loans; but that position is clearly untenable. While it is natural for borrowing countries to resent pressures on the part of the lenders, it is equally understandable that lenders cannot be expected to extend additional credits indefinitely in the face of inherently untenable payments situations. This is not to say that lenders have always been sufficiently reticent in their policy proposals: in many instances it seems evident that creditors may have been too eager to "assist" in policymaking and to formulate devaluation

packages when a simple refusal to consider additional credit as proposed would have been sufficient.

Overall the appropriate conclusion seems to be that strained lender/donor relations are an inevitable cost of exchange control regimes. If those regimes are sustained by foreign loans that are not productive, it is unavoidable that the borrowing cannot continue indefinitely, and its termination will necessarily be accompanied by some change in the trade and payments regime. Tensions between lenders and borrowers will invariably accompany severe exchange controls, even if creditors behave with complete circumspection. Resentments will certainly be greater when the devaluation liberalization effort results in stronger economic dislocations domestically and a reversion to Phase II. They are likely to be lessened when the strains of transition are smaller and when liberalization succeeds.

Gradual versus Abrupt Transition

One of the most difficult questions about how the transition to Phase IV and V can be accomplished is the rate at which relative price signals should be changed. On one hand, a "small" initial liberalization and reduction in bias may facilitate later moves in that direction and reinforce expectations that the alteration is permanent. Moreover, if a "big" change turned out to be more than could be sustained, any small reversal might trigger expectations of a move back to QRs, which would then be self-fulfilling. On the other hand, a "big" initial change may be desirable to jolt producers into changing their behavior. Slow changes may simply prolong the period of transition and increase the costs of the change; in turn the political reaction to the transition period may mount over time.

Behrman concluded that for Chile, with her past history of failure, a quick and "large" change would provide the best chance of success. Michaely also believes that it was the size of the change in Israel that was important in its success. The Turkish devaluation of 1958 represents yet another instance in which the change was large; its very magnitude helped shift expectations and speed reactions to the new set of relative prices. In a few instances, too little change doomed the endeavor; the Indian devaluation was certainly too small to have any hope of shifting signals enough to provide promise of long-term results.

Yet there can be little doubt that very large changes in relative prices are severe shocks to the economy and may result in dislocations that are intolerable. Such appears to have been the case after the Ghanaian devaluation of December 1971, when the price of a dollar was increased from N₵1.02 to N₵1.82. Within two months a military coup had overthrown the government and altered the exchange rate to N₵1.28 per dollar. Leith believes that it was

the magnitude of the devaluation that led to dislocations of politically intolerable magnitude.[6]

There probably can be no general conclusion on the matter. Relative price changes of 25 percent and more are obviously very large. Yet when past inflations have reduced the relative price of exportables by even more than that, some means of raising that price must be found if bias is to be significantly altered. The appeal of the sliding-peg policy is that, once adopted, large relative price changes to correct currency overvaluation induced by inflation under exchange controls are no longer necessary. However, for even a sliding-peg policy to work, the real exchange rate must be realistically valued at the outset; there must be an initial change—either gradual or abrupt—to establish appropriate real rates.

There is no easy way out of the dilemma. Once exchange controls have insulated an economy for a sustained period of time from the exchange rate changes that would otherwise have been necessary, it is inevitable that a large adjustment in relative prices will be needed if QRs are not to resume. However that large adjustment is achieved, there will be costs involved. Given the difficulties of maintaining new relative prices during the transition period, it seems doubtful that there is any wisdom in starting with a "too-small" exchange rate change; future changes may become even more difficult politically once the transition is begun. The lesson is, of course, that even in Phase II an overvaluation should not be permitted to reach the point where such large changes might later be necessary. Once QRs are that severe, the attempt to remove them is bound to entail high costs.

III. MACROECONOMIC DIFFICULTIES

The great majority of Phase III episodes were aimed at simultaneously reducing the rate of domestic inflation and liberalizing the trade and payments regime. Significant shifts in monetary and fiscal policy were undertaken in an effort to achieve the first goal, and the exchange rate was changed to a new, fixed parity as part of the set of policies designed to achieve the second. The implications of such a combination of policies are obvious: If the program to reduce inflation to something near the rate of increase in world prices is not successful, the real exchange rate will appreciate, and it will be impossible to sustain the liberalization for longer than foreign exchange reserves, new borrowing sources, and good fortune permit.

Even when stabilizing domestic prices is the foremost object of policy, it still makes little sense to tie the outcome of the liberalization effort to the fate of domestic prices, although it was done in many instances. However, only in four cases were countries successful in cutting their inflation rates sharply: Brazil after 1964, Israel after 1952, South Korea after 1964, and Turkey after

1958. Interestingly enough, a sliding peg or floating rate accompanied these successes in reducing inflation in Brazil and South Korea, and, after 1966, Israel began changing export EERs through export incentive schemes in order to maintain the real exchange rate. Adopting some policy to sustain the real rate is quite consistent either with reducing the inflation rate or with failing to do so; it certainly does not follow that devaluing with the stated intent of maintaining the real exchange rate implies that inflation will not be controlled.

It seems best to start by diagnosing the liberalization efforts that failed because of erosion of the real exchange rate. Thereafter, the experiences of countries with the sliding peg or other means of maintaining the real exchange rate in the face of domestic inflation can be evaluated. Lastly, although it is aside from the central focus of the project, it seems worthwhile to examine briefly the cases where devaluation and liberalization were successfully tied to controlling inflation.

Inadequate Real Exchange Rates

Twelve of the thirteen "failures" represent instances where, even after devaluation, the real exchange rate was too overvalued to permit sustained liberalization. The thirteenth case, Egypt, was the one in which there was almost no net devaluation but inflation eroded the real exchange rate in the several years after devaluation.

Of the twelve cases, there are three distinct, but interrelated, paths to failure, and some countries' efforts would have failed on more than one score. In a few cases the real exchange rate was probably set at an appropriate level until the price of a major export declined. That happened in Colombia after 1951, and it was a contributory factor in Chile after 1965 and in Ghana in the late 1960s. Certainly the high price of the exportables in question could not reasonably have been maintained, so that the real rate was probably overvalued in a long-run sense, but liberalization could, and did, continue until the terms of trade deteriorated.

The second pattern is similar to the first, except that temporary conditions never masked the fundamental problem; the real exchange rate was not increased enough and the devaluation was "too small." Behrman believes this to have been true of all three of Chile's devaluations.[7] India's 1966 devaluation was, for all intents and purposes, insufficient to do more than reduce the degree of overvaluation by a fraction. Brazil's 1957 devaluation failed to remove the bias against exports, and the Brazilian authorities began taking corrective steps only in 1959.

In the majority of cases, however, the real exchange rate appears to have been set at a level not unrealistic at the time of devaluation—the rate of inflation in the period following devaluation simply washed out the real change

that had occurred. The data in Table 5-3 support this observation. Inspection of the PLD-EER two years after devaluation indicates that the real rate had appreciated in fourteen instances. In eight of these cases the real exchange rate was lower two years after devaluation than it had been one year before; this happened in Brazil in 1961 and 1964, Chile in 1959, Colombia in 1957/58 and 1962, Egypt in 1962, Israel in 1962, and South Korea in 1961.[8] Indeed, it is not entirely obvious that inspection of an indexed series of real exchange rates would reveal the year in which devaluation took place. In all but one of the thirteen failures the real exchange rate appreciated; the exception was the Colombian devaluation of 1965, in which the real exchange rate had already fallen to its 1964 level by 1966—the devaluation in 1967 obscures that fact in Table 5-3.

There are thus cases in which the Phase III episodes would have foundered even if one of two problems had been eliminated. Thus, Brazil's 1957 devaluation was doomed to fail because inflation would quickly erode the improvement in the real exchange rate, but in addition the devaluation was so small that, even with stable prices, the liberalization could not have lasted. To be sure, either a larger initial devaluation or a slower rate of inflation would probably have allowed more improvement in foreign exchange earnings and permitted a greater amount, or a longer period, of liberalization.

Nonetheless the conclusions are obvious: failure to devalue by a sufficient margin will prevent sustained liberalization; *and* inflation after devaluation at a fixed exchange rate will prevent sustained liberalization. A realistic real exchange rate was set forth earlier as an essential condition for sustained liberalization, but what was not so evident was the role that domestic inflation had played in preventing its continuation.

The Sliding Peg as a Way Out

At first glance it would appear that a country might choose among several alternative means of maintaining a viable real exchange rate: (1) it could anticipate its future rate of inflation and devalue enough so that the *average* real exchange rate would be appropriate over a period of five years or so; (2) it could control domestic inflation; or (3) it could try to maintain a constant real rate by frequent formal or informal adjustment of effective exchange rates.

The first alternative might be viable if a country's rate of inflation seemed to be within 5 percent or so of the world rate. If a country's rate of inflation exceeded the world rate by 10 percent or more, the change in the real exchange rate that would be required to maintain a proper five-year average rate would probably entail very large resource reallocation costs. For example, if inflation were expected to exceed the world rate by 10 percent annually, and a country planned to devalue every five years by enough to restore the average real rate,

unacceptable fluctuations in the real rate and drastic exchange rate alterations would be required; it would have to devalue approximately 60 percent every five years. Even then anticipation of that rate of devaluation would lead to speculative pressures, preventing implementation of the policy.

The inflation-control alternative is, of course, a possibility. In general, however, countries have not been assured that they could control future inflation rates, and, even when they could, it has taken several years of declining rates before a new, lower rate of inflation was achieved. Thus, Brazil's attainment of a 15 percent rate was preceded by several years of higher, but declining, rates of inflation.

The third alternative is to adopt a policy of altering the effective exchange rate, through any of several techniques, in order to maintain a relatively constant real exchange rate. Such a policy is not at all inconsistent with controlling domestic inflation: as domestic price increases diminish, the size of adjustment in EERs can be reduced commensurately. There are, in effect, three techniques that can be employed to achieve the third alternative: (1) the exchange rate could be permitted to float; (2) the authorities could alter the nominal exchange rate by small amounts with great frequency; and (3) various ad hoc export incentives and import charges could be levied and changed periodically between devaluations.

The first method, floating the exchange rate, has been used on occasion, as in the Philippines for a short time in 1970 and in South Korea for several intervals after 1964. Such a procedure is perfectly satisfactory, but it requires a fairly realistic domestic interest rate policy to counteract incentives for lending and borrowing abroad. For example, a country might be experiencing 10 percent inflation annually with a 12 percent nominal interest rate, while the rest of the world had no inflation and an 8 percent interest rate; investors, anticipating 10 percent depreciation annually, would expect to earn—in terms of domestic currency—a nominal rate of return of 18 percent abroad compared with 12 percent at home, and thus capital flows would be induced.

The second method—the sliding peg—entails frequent small adjustments in the exchange rate. The time period between those adjustments must be sufficiently brief so thaat there is no incentive for speculation against the exchange rate changes. The advantage of the sliding peg is that it pemits control of capital flows and thus can insulate the economy from the detrimental effects of domestic real interest rates that are not aligned with world rates. The central bank buys and sells foreign exchange at the announced rate so that, in effect, the rate is pegged.

The third method, which involves adjusting the informal components of the exchange rate between devaluations, is similar to the second, except that there is more variance among the EERs extended to different categories of transactions. South Korea and Israel have both frequently employed the informal adjustment method.

Little needs to be said here about the possibility of floating the exchange rate. While theory suggests that such a policy is probably optimal, assuming a satisfactory money market, no country in the project adopted it over a long period. It was chiefly used to let the market serve as a guide to the appropriate level for a new fixed rate, even when that rate was later to be adjusted in accordance with price level changes.

The sliding peg is probably best thought of as a "second best" alternative in a country where there are many distortions, especially in the money market. Even then there is no assurance that the same real exchange rate will necessarily be appropriate over long intervals of time.[9] It is possible, however, to allow adjustments in the nominal rate that are greater or smaller than those dictated by the price level, depending on the behavior of the balance of payments. It is apparent that a real exchange rate can be maintained by a sliding peg, but that, in itself, is no guarantee against overvaluation—the importance of a realistic rate is by no means diminished. Indeed, the Chilean experience after 1965 seems to be a perfect example of a country that adopted a sliding peg but did not select a realistic level at which to hold that rate.[10]

Aside from Chile, two other countries—Brazil and Colombia—adopted the sliding peg. South Korea alternated between floating rates, the sliding peg, and adjustments of informal components of the exchange rate. Israel also used the informal adjustment method after 1966.[11]

Table 10-1 gives data for the three Latin American countries on real exchange rates and fluctuations in them over the time period when these countries had a sliding-peg policy. The nominal exchange rates are given in the first two columns; the third indicates the frequency with which the exchange rate was changed. Since data were recorded on a monthly basis, twelve changes per year are the maximum that could be indicated, and there may have been periods when Colombia or Chile changed the nominal rate more than once in a one-month period. As can be seen, Brazil tended to alter the exchange rate at intervals of six weeks to two and one-half months, while Chilean and Colombian changes were more frequent. The Brazilians, in fact, changed their exchange rate according to a formula which was designed to keep their PPP-PLD-EER constant in terms of eight trading partners; thus, the fluctuations shown in Table 10-1 reflect changes in other currencies relative to the dollar and differential rates of inflation among Brazil's trading partners.

These fluctuations in the real rates, while noticeable, are far smaller than was experienced at other times by the same countries under fixed rates. While it cannot be said that constant real rates would have been optimal, there is certainly no presumption that the fluctuations in the real exchange rate should be linked in any way to the increase in the rate of inflation—yet that is precisely what happens under a fixed exchange rate. The sliding peg—at least in the three countries covered here—has substantially reduced the variance in the real exchange rate, although not to a level lower than might be experienced by a low-inflation country.

Table 10-1. Exchange Rates, Nominal and Price-Adjusted, Three Sliding-Peg Countries (local currency units per U.S. dollar)

		Nominal Exchange Rate		*Number of Changes in NER*	*PLD-EER*			
Country	*Period*	*Initial*	*Terminal*		*Initial*	*Terminal*	*High*	*Low*
Brazil	7/68-12/68	3.220	3.830	4	4.47	4.89	5.00	4.47
	1969	3.830	4.350	8	4.78	4.53	4.88	4.51
	1970	4.350	4.950	7	4.47	4.38	4.47	4.29
	1971	4.950	5.785	8	4.30	4.25	4.30	4.10
	1972	5.785	6.215	7	4.14	3.91	4.14	3.86
	1973	6.215	6.220	5	3.86	3.44	3.86	3.44
Chile	3/66-12/66	3.71	4.37	9	7.27	7.95	7.95	7.27
	1967	4.46	5.79	12	7.75	8.80	8.80	7.63
	1968	6.01	7.67	12	8.22	8.99	8.99	8.22
	1969	7.92	9.98	12	8.85	8.20	8.85	8.03
	1/70-7/70	10.28	12.23	7	7.72	7.85	7.85	7.59
Colombia	3/67-12/67	13.54	15.82	9	8.62	9.64	9.64	8.62
	1968	15.80	16.95	12	9.57	9.85	9.88	9.45
	1969	16.95	17.93	12	9.80	9.49	9.80	9.45
	1970	17.99	19.17	12	9.52	9.44	9.63	9.43
	1971	19.29	21.00	12	9.50	9.33	9.51	9.24
	1972	21.10	22.88	12	9.36	8.87	9.39	8.87

Note: The price indexes are on a 1967 base.

Sources: IMF, *International Financial Statistics.* For Brazil—Line 64 was used as deflator, since the other price series are broken; for Chile and Colombia—Line 63a was used as price deflator.

In all three cases, each alteration of the exchange rate was of sufficiently small magnitude that speculation against exchange rate changes was not likely to be very profitable.[12] In Brazil, exchange rate alterations were *not* made at preannounced intervals, and most changes were only about 1.5 percent, while the annual discount rate was 24 percent and most domestic interest rates were even higher.

Colombia's "typical" exchange rate alteration was even smaller, ranging from 0.33 to 0.75 percent monthly. This was a result of the fact that Colombia's inflation rate was substantially lower than Brazil's, ranging from 5 to 10 percent per year compared to the Brazilian 20 percent figure. The Colombian discount rate was 8 percent until 1970 and 14 percent thereafter, with even higher domestic interest rates.

Chile, with the most rapid inflation of the three countries during their respective sliding-peg periods, again kept the monthly exchange rate changes

to around 1.5 to 2 percent, with the discount rate in the range of 15 to 20 percent. In periods of very rapid inflation, as during 1969 and 1970, the exchange rate alterations lagged behind inflation and the real value of the escudo appreciated from an already overvalued base.

There are a number of *a priori* grounds on which one would expect that adjustment of the informal components of the exchange rate would prove inferior to the sliding peg: (1) the smaller and more frequent changes associated with a sliding peg may be less disruptive of economic activity; (2) the fact that the sliding-peg policy is announced may provide greater certainty to producers; (3) a sliding peg may be more likely to reduce the variance in incentives among different categories of transactions and thus resemble a unified exchange rate in its effects; and (4) from a budgetary viewpoint, export subsidies are likely to be a drain on the government budget with the result that export subsidies may not keep pace with domestic inflation.

Empirically, however, there is little evidence of these types of effects in either the Israeli or the South Korean experience. Table 10-2 gives some indicators of the magnitude of inflation and subsidization for the two countries. In both cases the governments were successful in bringing inflation rates down from their high levels of the 1950s, but, as is evident from Table 10-2, a fixed exchange rate without any compensating policy would have resulted in sizable currency overvaluation.

Israel started reducing the bias of the regime in the 1950s, and that process continued until the mid-1960s. Starting with relatively minor measures in the early 1960s, the real export EER was raised significantly in 1966 and 1967 via various export incentive schemes. Thereafter, as matter of deliberate policy, export incentives were adjusted to maintain constancy of the real exchange rate.

South Korea's inflation has been slightly more rapid than that of Israel, and thus the nominal exchange rate has been changed more frequently. Moreover, South Korea did adopt a floating exchange rate for a period after 1965 and occasionally made the sliding peg a deliberate policy. For the most part, however, the won's exchange rate was altered in discrete jumps. Comparing the second and third colums of Table 10-2 the EER for exports has been above that for imports ever since 1961 in South Korea, whereas Israel had some bias toward import substitution over most of the period. So throughout the 1960s, South Korea had other strong export incentives in addition to those provided by the exchange rate.

If one attempts to relate the South Korean and Israeli policies to a hypothetical pure sliding-peg alternative, it is clear that the disadvantages attributed to the larger, discrete changes have been present but have not been great in magnitude. There have been greater fluctuations in the real exchange rate than would have occurred under a sliding peg, although government pronouncements and commitments to exports have probably assured exporters

Table 10-2. Nominal, Effective, and Real Exchange Rates, Israel, 1955-1971, and South Korea, 1961-1972 (local currency units per U.S. dollar)

		Effective Exchange Rates			*PLD-EER*	
	Nominal Exchange Rate	*Imports*	*Exports*	*Price Index*[a]	*Imports*	*Exports*
Israel						
1955	1.80	2.21	1.83	55	3.49	3.33
1956	1.80	2.26	2.05	60	3.77	3.42
1957	1.80	2.33	2.21	64	3.64	3.45
1958	1.80	2.35	2.37	70	3.36	3.39
1959	1.80	2.50	2.49	71	3.52	3.51
1960	1.80	2.57	2.58	75	3.42	3.44
1961	1.80	2.60	2.66	81	3.21	3.28
1962	3.00	3.47	3.02	87	3.99	3.47
1963	3.00	3.49	3.04	95	3.67	3.20
1964	3.00	3.47	3.06	100	3.47	3.06
1965	3.00	3.55	3.08	110	3.23	2.80
1966	3.00	3.59	3.27	119	3.01	2.75
1967	3.00	3.68	3.57	122	3.02	2.93
1968	3.50	4.13	4.04	124	3.33	3.26
1969	3.50	4.22	4.05	127	3.32	3.19
1970	3.50	4.42	4.49	138	3.20	3.25
1971	4.20	5.09	5.04	158	3.22	3.19
South Korea						
1961	130	147	151	51	287	294
1962	130	146	151	56	261	270
1963	130	148	189	68	219	281
1964	256	247	281	91	271	310
1965	256	293	305	100	293	305
1966	271	296	323	109	272	297
1967	271	296	331	116	256	286
1968	277	303	355	125	242	283
1969	288	313	363	134	234	272
1970	311	336	397	146	231	272
1971	348	n.a.	n.a.	158	n.a.	n.a.
1972	392	n.a.	n.a.	181	n.a.	n.a.

n.a. = not available.

Sources: Israel–Michaely, Tables 4-9 (nominal rate); 4-3 (effective rates); and A-17, col. 3 (price level). South Korea–Frank, Kim, and Westphal, Tables 3-1, col. B, and 5.7, row 1 (official rates); Tables 3-1, col. K, and 5.7, row 3 (wholesale price index); and Tables 5.8 (export rates) and 5.9 (import rates).

[a]Price index: for Israel, 1964 = 100; for South Korea, 1965 = 100.

against major risks. As is documented by Michaely and Frank, Kim, and Westphal, both the Israeli and the South Korean export subsidies created differential incentives among various export activities, and there were undoubtedly some significant inefficiencies resulting from differentials among export commodities and categories.[13]

Concern about inefficiencies caused by the disparity between current and capital account exchange rates does not appear to have been warranted in the Israeli case. In South Korea an interest rate differential between domestic and foreign borrowing created problems that would not have arisen under a sliding peg.[14] The danger that export subsidies will lag behind the price level has been realized to some extent in both South Korea and Israel. In both cases the real rate has tended to appreciate after major exchange rate alterations. It would appear that Israeli policy may have been geared toward a constant real rate after 1966, but before that time erosion was obvious. In South Korea, likewise, there was at least a 10 percent decline in the real return to exporting from 1964 and 1970.[15] Nonetheless, in both countries there was sufficient commitment to export performance so that major erosion in the export EER has not materialized.

The budgetary drain resulting from export subsidization was one of the factors accounting for South Korea's willingness to devalue. The fact that the drain was visible was, in fact, probably a benefit of the system: the cost of export subsidization was apparent to interested groups within the government, who exerted pressures so that the disparity in favor of exports would not become too great. In Israel, receipts from increased import duties more than financed export subsidies, so no fiscal drain materialized.

In both the South Korean and Israeli cases, periodic discrete devaluations were followed by changes in export subsidy rates to maintain the profitability of exporting to domestic producers. But the fact that the policies of those two countries appear to have been relatively successful does not prove that export subsidization with periodic devaluation is the optimal route. Indeed, in most of the countries covered by the NBER project, export subsidy schemes were limited to a small number of commodities. This limitation was partly because of the fiscal implications of large-scale subsidies; the will to promote exports was not strong enough to overcome them.[16] In a sense a commitment to maintain the real exchange rate via export subsidies requires a continuing set of policy decisions, while measures such as a sliding peg are fairly automatic after the initial decision is made. Only in cases where the government is able to act decisively, quickly, and with continuity can the discrete subsidy devaluation route become a viable alternative to the sliding peg. Even then it is hard to see why the sliding peg cannot work as well or better.

Controlling Inflation

Because the origins of inflation generally lie in domestic political and economic considerations, a strong argument can be made that the foreign trade regime should not be made a function of those particular conflicts. Since inflation imposes substantial costs, it seems clear that efforts will be made to reduce it when it is politically possible to do so. Thus, it would seem that in most instances a realistic starting point would be to assume that inflation will likely continue. Should either a sliding peg or ad hoc export subsidies be used as the means to avoid the severe foreign trade costs of domestic inflation, those policies would automatically adjust themselves in the event inflation were eliminated.

Even in instances when inflation control was the primary objective of policy, it is difficult to see why a sliding peg would not have facilitated achievement of the goal during the transition period. However, it is worth reviewing the lessons that emerged from the experience of those countries that simultaneously set out both to liberalize their regimes and to control inflation. Altogether there are four success stories: Brazil in 1964, Israel in 1952, South Korea in 1964, and Turkey in 1958. Two—Brazil and South Korea—used the sliding peg and other means to maintain their real exchange rates. Israel and Turkey were the two countries that were experiencing high rates of inflation and succeeded in reducing those rates sharply with fixed exchange rates. Both the Israeli and the Turkish governments had attempted to control economic activity through quantitative means during the period prior to the devaluation. The resulting strains had been evident to all, and a strong consensus had developed that continuation of the regulations could only lead to deterioration in the situation. In both cases, also, the inflation had been fairly recent in origin. In Israel this was because the country was newly independent; in Turkey it was because the economic policies that led to the dislocations had really begun only three or four years earlier. In both cases there appears to have been some slackening in the pace of economic activity, although real GNP continued growing.

Altering inflationary expectations probably requires a somewhat sharper brake than does shifting resources toward export production. In most of the cases of recession encountered in the country studies, in fact, the real villain of the piece appears to have been the sharp cutback in the rate of increase of the money supply. In most instances it was the attempt to control domestic inflation, and not the liberalization, that resulted in slowdowns in the rate of economic growth.

It would therefore appear that there were special circumstances that enabled Israel and Turkey each to adopt simultaneously both anti-inflation and liberalization programs, largely successfully. First, the inflation itself had been relatively short-lived. Second, the government's predevaluation excesses

in attempting to control economic activity had led to severe and visible losses, and it was perhaps these extremes that made such a rapid transformation possible. Even then it should be remembered that Israeli inflation after the 1952-1955 reform still required informal subsidization of exchange rates, and that Turkey had reentered Phase II by the mid-1960s.

During the 1950s and 1960s the world price level was fairly stable; in the absence of exceptional circumstances it was unrealistic for a country with even a small inflation rate to expect to maintain a fixed nominal exchange rate. In the mid-1970s the world inflation is considerably more rapid than during the period covered by the project. In a sense the feasibility of adopting a fixed nominal exchange rate may be somewhat greater now than it was earlier because all that is required is to keep the domestic rate of inflation at, or below, the world rate. Even so, except in countries where inflationary expectations have had little chance to form or under exceptional circumstances, it is very doubtful whether an attempt at reducing the rate of inflation should be coupled with liberalization efforts under a fixed nominal exchange rate. After all, there is nothing inconsistent about having a sliding peg and a stable price level. Indeed, in a world where many currencies are floating, the nominal exchange rate itself can be fixed only in terms of one currency or a basket of currencies; the advantages of maintaining a fixed nominal exchange rate have therefore substantially diminished.

IV. MACROECONOMIC LESSONS

The Trade-off between Foreign Borrowing and Recession

Export earnings cannot be counted upon to respond sufficiently to finance liberalization in the short run following devaluation. Foreign credits enable the flow of imports to be increased immediately but incur a future liability for debt servicing. In the absence of borrowing, liberalization can take place only to the extent that: (1) the devaluation itself is sufficient to absorb the premium on imports; (2) the central bank runs down foreign exchange reserves or has increased foreign exchange receipts as reverse speculative flows follow devaluation; (3) domestic demand is reduced through tightening of monetary and fiscal policy and other measures; and (4) tariffs are raised to replace QRs.

Since, in general, central bank reserves are already run down prior to devaluation and the counterspeculative flows are neither large in magnitude nor assured, the policy choice lies in deciding upon the amount of exchange rate change, the restrictiveness of monetary and fiscal policy, the extent to which tariffs will be increased, and the amount of foreign borrowing.

The first item to be noted is that there can be no significant social payoff to liberalizing a regime by more than can reasonably be expected to be sustain-

ed. It is highly improbable that any significant liberalization can be sustained in a devaluation to a new, *fixed* exchange rate; in this case it seems doubtful—except for countries with very stable price levels or extremely moderate inflation—that borrowing to finance liberalization makes any sense. Further, except to the extent that reduced inflation is desired to its own sake, it is doubtful whether a significant slowdown in the rate of economic activity should be tolerated. If it is a near certainty that inflation will resume as soon as economic growth reattains a satisfactory pace, there seems to be little rationale for reducing output in order to sustain a liberalization that can continue only as long as domestic economic activity is depressed. Raising tariffs can, of course, reduce reliance on QRs, but even then, if ad valorem rates are constant, excess demand for foreign exchange will sooner or later emerge. The bias-reducing impact of devaluation will, moreover, be smaller if tariffs are increased, and prospects for any sustained increase in foreign exchange earnings in the intermediate term will be diminished.

Determination of the optimal extent of foreign borrowing and of slowdown in the level of economic activity should properly arise in the context of a sliding-peg policy or other means of maintaining relative constancy of the real rate. In that circumstance it is clear there is a sound economic basis for arguing that foreign borrowing is by far the superior instrument with which to support liberalization and reduced bias until foreign exchange receipts begin responding to the altered incentives provided by the regime.

The strong presumption in favor of foreign borrowing follows naturally from the consideration that for any given amount borrowed abroad, liberalization can be carried out to the same extent as if domestic income were reduced by a multiple of that. This multiple is equal to the reciprocal of the marginal propensity to import; thus, if the marginal propensity to import out of income were 0.1, it would require a $10 reduction in domestic income to achieve the same liberalization for a year as could be achieved by financing $1 of imports with a foreign loan. If export earnings can be expected to finance imports after two years, the increase in real income per year that could be achieved by borrowing $1 abroad would be somewhere between $4 and $5 for each of those two years. It seems beyond dispute that, at any plausible interest rate, the real return on foreign borrowing would far exceed the cost, quite aside from whatever long-term benefits in the form of improved resource allocation or faster growth resulted from sustained liberalization.

A government could free imports so much in the short run that the flow could not be sustained. Such was undoubtedly the case in Turkey, where the increased flow of imports in 1959 was well beyond the level that was sustainable in the long run; this liberalization could undoubtedly have been achieved with a smaller increase in the volume of imports.[17] Even then, some part of such an increased flow may be required for inventory build-ups and restocking, not just for unsustainable levels of consumption.

The lesson would appear to be that transition from exchange control to liberalization can best be achieved by adopting a sliding peg at a realistic exchange rate and simultaneously borrowing a quantity of foreign exchange sufficient to permit an immediate liberalization of imports (to the extent that the premium on import licenses disappears) and to assure observers that the liberalization will continue. Foreign loans on that scale have seldom been available to countries embarking on devaluations and liberalizations. One implication from this project is that providing such loans might have a high social product in terms of the allocation of world resources if the loans were utilized in conjunction with a consistent program to increase foreign exchange earnings and so sustain liberalization.

But even in the absence of such loans, some government policies can improve chances of sustaining liberalization. First and foremost, a larger change in the exchange rate would be necessary if import liberalization could not be financed with credits. Such a devaluation might "overshoot" the long-term equilibrium rate, but it could be offset if the sliding peg were adjusted by less than the amount of price level changes once foreign exchange receipts began growing rapidly. Whatever the disadvantages of a larger devaluation, it is probably superior to reducing domestic income levels as a means of containing import demand. Only if import demand had a very high income elasticity might income reduction be a more feasible method of supporting a liberalization effort.

The conclusion seems warranted that recession is not only an undesirable concomitant of devaluation and liberalization efforts, it is also unnecessary and economically inefficient. That conclusion holds when the transition is made to a sliding peg, but it is even more true when devaluation is made to a fixed exchange rate that in any event will be eroded by domestic inflation. The recessions that have followed Phase III episodes in the ten project countries have come about either through factors independent of the liberalization effort or as a result of attempts to reduce the domestic rate of inflation.

Macroeconomic Impact of Phase III

Thus far several conclusions about the macroeconomic impact of Phase III have emerged: (1) the existence of a large inflationary gap at the time of devaluation is almost certainly inconsistent with providing an atmosphere in which altered incentives can induce resource reallocation; (2) tying the fate of the devaluation package to the immediate reduction in the rate of domestic inflation may be unwise; and (3) domestic recession is not a necessary accompaniment to the Phase III transition.

In addition, devaluation itself has a macroeconomic impact and, therefore, by implication requires that an appropriate policy be followed in

pursuit of stabilizing aggregate demand. Obviously the effect of devaluation is a function of circumstances specific to each country and of other factors expected to affect the level of economic activity. It seems most appropriate, therefore, to frame the following question: If the authorities had decided upon a desired level of economic activity and a monetary and fiscal policy to be followed in order to attain it, how would a devaluation package alter the monetary and fiscal policy that ought to be pursued?

A number of important findings that shed some light on the issue emerge from the country studies. First, and perhaps most important, is the fact that the macroeconomic impact will hinge critically on the behavior of imports in the postdevaluation period. If import flows are greatly increased, the net impact of devaluation will not be very inflationary, and indeed it can even be deflationary.[18] If, on the other hand, devaluation is accompanied by a cutback in the flow of imports, it is likely that inflationary pressures will result. As was seen in Chapter 8, the combined outcome of all the factors influencing the price level was not significantly inflationary for the countries covered by this project, and it seems clear that the deflationary impact of increased flows of imports has been underestimated on several occasions.

Second, there are a number of aspects of devaluation that affect the government budget deficit. Raising tariff rates, for example, may increase budget receipts and, in fact, tariff revenues will automatically increase with devaluation if they are levied on an ad valorem basis and the flow of imports is not drastically cut. In some countries, export taxes have been imposed on traditional commodities in order to absorb the windfall gains that might otherwise have occurred. The short-term use of such taxes may prove especially beneficial if devaluation is undertaken when the crop is already in the hands of middlemen. This policy can, however, be considered only for the short-term period because of the necessity for increasing incentives for producers of traditional exports.

Third, a devaluation that is successful in increasing foreign exchange earnings can, unless offsetting measures are taken, result in unwanted increases in the money supply. To the extent that measures can be taken to sterilize the net change in foreign exchange receipts, the impact of devaluation will be less inflationary, and the long-term prospects for sustained growth of foreign exchange earnings will be improved. A devaluation that is highly successful in increasing foreign exchange receipts may also in the longer run prove highly inflationary if reserves are allowed to accumulate and the domestic monetary base increases. To a certain extent such an outcome can be prevented by permitting flows of imports to increase as foreign exchange receipts rise. However, there are instances—especially when there is a very strong short-term response—where additional measures would be required to prevent an undesirable overexpansion of the money supply; import flows of a magnitude

sufficient to prevent a current account surplus might require strong temporary measures to induce them and represent an uneconomic utilization of foreign exchange receipts.

Finally, there is some evidence that devaluation and its accompanying measures may affect the time-path of aggregate demand; the short-term impact may be inflationary, but there may be a tendency toward deflation at a later date. This would be most likely to occur in situations where an increased import flow followed devaluation by several months; in fact, this might normally be expected because of delays between orders and delivery. In this case an appropriate monetary/fiscal policy stance might be somewhat restrictive in anticipation of the devaluation and then turn somewhat easier after six months (assuming that foreign exchange receipts are appropriately sterilized and that due account is taken of the likely shift in the government budget).

On balance, however, the evidence strongly indicates that the impact of a Phase III episode on the level of economic activity is far less inflationary than has generally been assumed. The appropriate conclusion is probably that a healthy skepticism should be maintained about any sizable impact of the Phase III package on the level of economic activity, except when a sharp cutback in imports accompanies devaluation. There are enough offsetting factors working in both directions that it would very likely require large changes in import flows, in the exchange rate, or in other variables before it could be assumed that the devaluation package would be a major factor in determining changes in the level of economic activity or of prices.

NOTES

1. There is also the problem that the costs are largely incurred before the benefits are forthcoming.

2. Behrman, pp. 310-11.

3. Ernest Sturc stresses the importance of political consensus in his evaluation of the Finnish, Spanish, and Turkish experiences. See his "Stabilization Policies: Experience of Some European Countries in the 1950's," *IMF Staff Papers* 15 (July 1968):197-217.

4. Behrman, p. 298.

5. Diáz, p. 207.

6. Leith did not cover the 1971/72 episode in detail in his study. His comment was made in correspondence with the author.

7. Chile's 1965 devaluation was followed by five years with a sliding peg. The causes of failure are discussed below, but they center on overvaluation of the exchange rate.

8. Two of the cases—Brazil 1964 and Israel 1962—are nonetheless treated here as successes. The fact that the Brazilian real rate was lower two years after the 1964 devaluation than it was a year before points to Fislow's conclusion that the 1967 policy shifts were necessary for sustained liberalization.

9. Indeed, there are bases on which it can be presumed that the appropriate real rate might alter, quite aside from the obvious case of changes in the price of a major exportable. See, for example, Michael Bruno, "Trade, Growth and Capital," Working Paper No. 65, Department of Economics, M.I.T., 1970.

10. Behrman, pp. 295-96. In addition, the peg was not adjusted enough. In general the changes in the rate were smaller than those in the price level, so that overvaluation increased over time.

11. Israel also changed to a sliding peg late in 1975, but that is well outside the scope of Michaely's study and there is no evidence yet available about the effects of the system at this writing.

12. Even though the authorities can control a great many transactions, there are still ways in which speculation can occur if it is sufficiently remunerative. For example, exporters can delay shipments and compensation and importers can speed up their orders and payments.

13. See Michaely, Chapter 4, Section 2, for a discussion of the dispersion in export rates in Israel; and Frank, Kim, and Westphal, Chapter 10, Section 6, on the situation in South Korea. It would appear that distortions in South Korea were probably greater than those in Israel.

14. See Frank, Kim, and Westphal, Chapter 7, for a discussion of the problems arising from the two interest rates. After devaluation it became attractive to borrow from abroad, but as time progressed, exchange rate uncertainty made the domestic market increasingly attractive, and swings were introduced into Korea's capital account. Under a sliding peg the real rates would have been equated, and such swings, with their resulting inefficiencies, would not have arisen.

15. South Korea's export growth has been so rapid that the real rate probably should have appreciated. Frank, Kim, and Westphal found that the real rate was approximately optimal over the period in question. See their Chapter 9.

16. It is important to distinguish subsidy schemes to stabilize the price of particular export commodities from schemes to maintain the real exchange rate. Egypt had an automatic scheme for maintaining a constant producer price of cotton in the 1950s, for example. That was aimed at insulating the domestic economy from foreign price fluctuations.

17. Even in that instance there seems little doubt that the huge inflow of imports was a significant factor contributing to the rapid control of inflation.

18. It should be noted that this is one very important way in which devaluation differs between convertible regimes and exchange control regimes.