

Formulation of Exchange Rate Policies in Adjustment Programs

By a Staff Team Headed by G. G. Johnson



International Monetary Fund
Washington, D.C.
August 1985

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*Out of print

(Continued on inside back cover)

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International Monetary Fund
Washington, D.C.
August 1985

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Edited by Maxine Stough

International Standard Serial Number: ISSN 0251-6365

International Standard Book Number: ISBN 0-939934-50-7

Price: US\$7.50

(US\$4.50 to university libraries, faculty members,
and students)

Address orders to:

External Relations Department, Attention Publications
International Monetary Fund, Washington, D.C. 20431

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The following symbols have been used throughout this paper:

- ... to indicate that data are not available;
- to indicate that the figure is zero or less than half the final digit shown, or that the item does not exist;
- between years or months (e.g., 1979–81 or January–June) to indicate the years or months covered, including the beginning and ending years or months;
- / between years (e.g., 1980/81) to indicate a crop or fiscal (financial) year.

“Billion” means a thousand million.

Minor discrepancies between constituent figures and totals are due to rounding.

Prefatory Note

This study was prepared in the Consultation Practices Division of the Exchange and Trade Relations Department under the direction of G. G. Johnson, Division Chief. The authors are grateful to the many other staff members, both in the Exchange and Trade Relations Department and elsewhere in the Fund, who provided background information on the formulation of exchange rate policies in individual adjustment programs.

The paper has benefited from comments by other Fund staff members and by members of the Executive Board. However, opinions expressed are those of the authors and do not necessarily represent the views of other staff members or of Executive Directors.

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I Introduction

The role of exchange rate policy in economic adjustment has been widely studied and is the subject of numerous theoretical and empirical papers produced in the Fund and elsewhere. The Fund staff has reviewed from time to time the effectiveness of adjustment programs incorporating an active exchange rate policy.¹ Other issues relating to exchange rate policy, including, in particular, the interaction between the exchange rate and other macroeconomic policy variables, also have received considerable attention.²

¹ Studies in this area include: Thomas M. Reichmann and Richard T. Stillson, "Experience with Programs of Balance of Payments Adjustment: Stand-By Arrangements in the Higher Credit Tranches, 1963-72," *Staff Papers*, International Monetary Fund (Washington), Vol. 25 (June 1978), pp. 293-309; Justin B. Zulu and Saleh M. Nsouli, *Adjustment Programs in Africa: The Recent Experience*, Occasional Paper No. 34 (Washington: International Monetary Fund, April 1985); Donal Donovan, "Real Responses Associated with Exchange Rate Action in Selected Upper Credit Tranche Stabilization Programs," *Staff Papers*, International Monetary Fund (Washington), Vol. 28 (December 1981), pp. 698-727; G. G. Johnson and Thomas M. Reichmann, "Experience with Stabilization Programs Supported by Stand-By Arrangements in the Upper Credit Tranches, 1973-75," (unpublished, International Monetary Fund, February 28, 1978). Some of the latter's main findings were described by Reichmann in "The Fund's Conditional Assistance and the Problems of Adjustment, 1973-75," *Finance and Development*, International Monetary Fund and World Bank (Washington), Vol. 15, No. 4 (December 1978), pp. 38-41.

² Various aspects of the role of exchange rate policy were considered in three studies by the International Monetary Fund's

However, little detail is available on the methodology of developing and implementing exchange rate policies in the context of adjustment programs. Besides examining general issues related to formulating exchange rate policy in adjustment programs, this paper reviews the experience with development of exchange rate policy in programs supported by the Fund in 1983.

The second chapter summarizes some basic conceptual issues relating to exchange rate policy in adjustment programs. The third briefly reviews experience with exchange rate adjustment in Fund-supported programs, noting the growing use of active exchange rate policies in recent years. The paper's fourth chapter considers the various indicators available for identifying a need for exchange rate adjustment and gauging its amount. The final chapter reviews the actual process of formulating exchange rate policies in upper tranche stand-by and extended arrangements approved by the Fund in 1983. The appendix presents case studies describing the formulation of exchange rate policies in the 1983 Fund-supported programs of Ecuador, Ghana, and Sri Lanka.

Research Department. These were published in July 1984 in the Fund's Occasional Paper series: "Exchange Rate Volatility and World Trade," (No. 28); "Issues in the Assessment of the Exchange Rates of Industrial Countries" (No. 29); and "The Exchange Rate System: Lessons of the Past and Options for the Future" (No. 30).

II Conceptual Issues

Whenever a country undertakes a program of balance of payments adjustment, it needs to consider whether a change in the exchange rate is required to achieve a viable external position and a reasonable rate of economic growth over the medium term. The ways in which exchange rate policy works to correct balance of payments problems and to improve the allocation of resources are well known and need no repetition here. To provide a setting for the discussion in the remainder of the paper, however, this section briefly considers four conceptual issues: (1) the use of indicators to assess the appropriateness of the exchange rate in adjustment programs; (2) the role of exchange rate policy in relation to other program policies; (3) the extent to which exchange rate stability should in itself be a proximate policy objective in adjustment programs; and (4) the attention given to exchange rate policy when use of Fund resources is involved.

Most situations in which exchange rate policy is an issue are characterized by both excess demand and incorrect relative prices. In addition, almost all of the countries undertaking Fund-supported adjustment programs in recent years have been developing countries, where the level of institutional and statistical development limits the range of policy choice and the feasible types of economic analysis. A third salient characteristic of program countries is that, by and large, they maintain severe restrictions on external transactions, a factor which complicates exchange rate analysis. Because restrictions generally affect the demand side of the foreign exchange market more than the supply side, the currency depreciation consistent with efficient allocation of the country's resources would need to go beyond that indicated by the need to deal with the immediate problem in the external accounts.

Assessment of the Appropriateness of the Exchange Rate³

An essential element in the design of adjustment programs is assessment of the appropriateness of the

³ General questions of exchange rate assessment recently have been considered in Occasional Paper No. 29 (cited in footnote 2)

exchange rate.⁴ This paper focuses mainly on the indicators that have been used in such assessments in Fund-supported adjustment programs. These indicators may help to evaluate the medium-term implications of a given exchange rate, or may be used to determine the amount of exchange rate action required at the outset of a program, as well as the timing and amount of subsequent exchange rate adjustment.

Where the exchange rate is freely determined by market forces, indicators may not be needed to decide the amount of exchange rate action. Nevertheless, indicators play an important role in assessing both the likely future path of the rate and its consistency with the program's other objectives. Such an assessment might not raise questions about exchange rate policy as such, but could suggest a need to adjust other policies to produce a rate that is more appropriate from a medium-term perspective.

Full market determination of the exchange rate is relatively rare in Fund-supported adjustment programs. Fund resources are provided to ease the process of adjustment, and in that sense are effectively available for intervention in the exchange market.⁵ Such support may, of course, be provided in a form broadly consistent with the principle of market determination. For example, limits may be imposed on the amount of intervention during a given period. Most countries—particularly developing countries—go further and follow exchange rate arrangements where the rate is determined administratively.⁶ In these cases, a basis needs to be found to determine any initial devaluation and to guide further exchange rate action during the program period. The indicators discussed later in this paper serve this purpose.

and in Ahsan Mansur, "Determining the Appropriate Levels of Exchange Rates for Developing Economies: Some Methods and Issues," *Staff Papers*, International Monetary Fund (Washington), Vol. 30 (December 1983), pp. 784–818.

⁴ Or, more generally, the time path of the rate.

⁵ Market-determined exchange rates are likely to be particularly volatile in the initial stages of adjustment programs, when market participants may not yet fully understand the implications of the new policies or be fully convinced that they will be sustained.

⁶ In part, this may reflect a preference for a more stable exchange rate than is likely to be the case when market forces are the primary determinants of the rate. This question is discussed in the section below: "Exchange Rate Stability as a Proximate Policy Objective."

Because indicators are necessarily imperfect, there is always a danger that they may give misleading signals regarding the appropriate rate. In a restriction-free system, however, deviations from the market-clearing rate will show up in a need for intervention, which provides an automatic check on the signals provided by indicators. Restrictions on external transactions interfere with the operation of this corrective mechanism. The fact that few Fund-supported adjustment programs provide for early elimination of restrictions means that exchange rate policy relies on indicators to a greater extent than would otherwise be the case. Great care therefore must be exercised in their use.

The Relation Between the Exchange Rate and Other Policies

The policy mix chosen to restore a sustainable external position depends on the size and nature of the external imbalance, as well as the economic efficiency and sociopolitical implications of the various policy instruments. A relative price adjustment may not be needed in some instances where a sustainable external position can be restored by reducing aggregate expenditure without incurring unacceptable short-term losses in output and employment.⁷ Similarly, where a moderate improvement in competitiveness is indicated, it may be feasible to correct relative prices through demand restraint, particularly if such action is supported by incomes policy and other means. Where a major improvement in competitiveness is required, however, exclusive reliance on demand restraint and related policies is unduly costly in terms of forgone output and unemployment, particularly where costs and prices are relatively unresponsive to such policies.

By contrast, an exchange rate adjustment immediately corrects the price misalignment and permits adjustment to take place at higher levels of economic activity. Generally, the desired change in relative prices cannot be accomplished without some immediate increase in the price level, but appropriate supporting policies will limit the increase.⁸ Although the superiority of exchange rate policy as a means of correcting major price misalignments is likely to be

empirically valid for all countries, the optimum policy mix and the extent of reliance on exchange rate policy will be considerably influenced by a country's individual characteristics, such as the extent to which incomes policy can be used to adjust relative prices. If price inflation tends to be passed through to wages, for example, a targetted improvement in competitiveness will require a larger devaluation than when wages are less intimately linked to prices.

The weights assigned to various policy objectives will also influence the policy mix. A larger devaluation will, other things being equal, permit adjustment to occur at higher levels of production and employment, but perhaps at the cost of a more immediate and visible effect on income distribution. Over the medium term, there are clear advantages to the stronger action; but the immediate political consequences may be more severe.⁹ Concern over the short-term impact on inflation of a realignment of relative prices and over the distributional effects of a devaluation, in some cases, may lead a country's authorities to choose adjustment policies that rely heavily on demand restraint. Such a lesser exchange rate action may well be consistent with adequate adjustment, although the process will be slower and more painful. There is thus an element of flexibility in choosing the policy mix. Beyond that range of flexibility, any shortfall significantly lowers the likelihood of successful adjustment.

Any assessment of exchange rate policy therefore needs to be carried out in the context of an overall policy assessment. Because the extent of the needed exchange rate action depends on the stance of other policies, indicators of the rate's appropriateness cannot be applied automatically, even when they are free of the various conceptual and statistical weaknesses noted in Chapter IV.

A policy objective that has particularly intimate ties to exchange rate policy is the avoidance of restrictions on external transactions. Insofar as restrictions are used to maintain the exchange rate at a level other than that consistent with market clearing (after allowance for any stabilizing intervention), the rate cannot be considered to be fully appropriate. Consistent with the Fund's objective of promoting reduced reliance on restrictions on external transactions (particularly on current exchange transactions), Fund-supported adjustment programs generally aim at reducing such restrictions. In case of a severe imbalance, however,

⁷ This would be the case, for instance, if the external imbalance has resulted from a rise in government imports, which can be reversed without significantly compromising other policy objectives, such as the rate of economic growth.

⁸ Effective demand management is a necessary aspect of any successful exchange rate action. Note that the exchange rate action and associated price increases, through their effects on the real value of financial assets, themselves contribute to reducing excess demand.

⁹ Note that both approaches involve judgments that are in some sense "political," but with different time horizons. The political environment will be more favorable in the medium term if income and employment are better maintained, and over the medium term, the income distribution effects are likely to be similar under either approach to adjustment. High unemployment itself has particularly adverse effects on income distribution, of course.

the extent of the needed policy adjustment is often so great that action on restrictions is postponed. So long as restrictions remain, adjustment cannot be considered complete, and any assessment of the appropriateness of the exchange rate needs to take this into account.

Exchange Rate Stability as a Proximate Policy Objective

Aside from wishing to avoid whatever costs may be associated with short-term exchange rate volatility, for many countries intervention to stabilize the exchange rate is a means of reducing the impact on the economy of short-term real (as opposed to monetary) shocks. In most developing countries, moreover, exchange markets are thin and financial markets undeveloped, increasing both the volatility of market-determined rates and the cost of hedging against future fluctuations.¹⁰ In any case, virtually all developing countries exercise some degree of exchange rate management.

Pegging a currency involves a particularly strong commitment to exchange rate stability. Formal commitment to a realistic peg can help stabilize capital flows, provided that exchange market transactors have confidence that other policies will be consistent with maintaining the rate. Commitment to a realistic peg may also produce more general stabilizing effects. Because the currencies chosen as pegs typically belong to stable, low-inflation countries, maintenance of the peg implies that the pegging country has to follow stable financial policies.¹¹ If the pegging country does not follow such policies, adherence to the peg will in itself lead to difficulties.

An important issue for exchange rate policy in adjustment programs is the extent to which it is appropriate to continue with a pre-existing peg, even when the need for adjusting relative prices suggests that exchange rate flexibility, at least to the extent of a change in the peg, would be desirable. The dilemma is clear: when there is a great need to enhance competitiveness, programs that rely exclusively on demand management will exact heavy costs in terms of forgone output and unemployment over a prolonged period. At the same time, provided that developments

and policies have not irreparably shaken confidence in the rate's viability, maintaining the peg may encourage public acceptance of the adjustment measures and enhance their effectiveness. Where such confidence can no longer be sustained, as in cases of severe inflation, or where the rate is supported by restrictions on external transactions, devaluation is clearly necessary.

The question of what importance should be attached to exchange rate stability is particularly relevant in two very different situations: countries that have a particularly strong institutional commitment to fixed rates, as in the case of members of currency unions, and, at the other extreme, countries whose exchange rates have changed frequently, as in the case of many countries with a history of high inflation. Some aspects of this question are examined in Chapter V.

Exchange Rate Policies in the Context of Fund-Supported Adjustment Programs

In determining whether Fund resources will be used to support a country's adjustment program, the Fund has to be satisfied that the policy changes adopted under the program will be sufficient to allow the balance of payments problem to be overcome and to permit timely repurchases to be made without undue strain. This judgment in turn depends on assessments of the magnitude and character of the balance of payments problem and the effects of the corrective policies adopted before the request for support was made. Sets of alternative policies to achieve the needed adjustment also are evaluated. Accordingly, discussions between the Fund staff and member country officials regarding requests for use of Fund resources focus on all of these questions, as well as on establishing monitoring mechanisms that provide adequate assurance that the policies adopted will accomplish the required amount of adjustment.

It is in this context that the role of exchange rate policy in the adjustment program figures in the discussions between the Fund staff and member country officials. The first step in the process is a convergence of technical views with regard to the dimensions of the balance of payments problem and its causes. Because there is generally a history of discussions on these issues between the Fund staff and country authorities, this first step normally presents few difficulties, although assessments of the implications of a given set of information may differ.

More complex discussions often take place regarding the precise form of the adjustment package and the role to be played in it by the exchange rate. Although the process is essentially technical, it involves political

¹⁰ Over time, freely operating markets would result in the development of new mechanisms and institutions that would alleviate these disadvantages of market-determined rates.

¹¹ In a world of generalized floating, a fixed exchange rate against any particular currency will imply floating with that currency against other major currencies. To avoid being tied too closely to the movements of a particular currency, countries often peg to a basket of currencies.

considerations to the extent that the country authorities must choose among alternative sets of policies involving an equivalent amount of overall adjustment, but with varying adjustment paths which may have different political implications. It is generally preferable to take the entire amount of an indicated exchange rate action at the outset, but the immediate and visible effects of such a policy on recorded inflation and on the sectoral distribution of income may make such a step politically difficult. Nevertheless, failure to im-

plement fully the indicated exchange rate action requires stronger compensating action in other areas, which may also involve choices with political implications. Considerable discussion is sometimes required between the Fund staff and member country officials to work out a set of measures that takes the political constraints adequately into account, while maintaining an appropriate speed of adjustment and avoiding excessive reliance on adjustment instruments that have unduly high costs in other respects.

III Historical Perspective

Since the Fund granted the first stand-by arrangements in the 1950s, its policies regarding the programs supported by such arrangements consistently have emphasized the need for an appropriate structure of relative prices to promote the attainment of a viable balance of payments. In the relatively stable economic environment of the 1950s and 1960s there tended to be more emphasis on adjustments through demand management, and most programs could exclude exchange rate action without seriously compromising their objectives. At the same time, there was a general international commitment to fixed exchange rates. In the 1970s the economic environment changed. Partly in response, commitment to fixed exchange rates was regarded as less important than before, and exchange rate action began to figure in the majority of Fund-supported adjustment programs. In the 1980s, the difficult economic environment, together with the need to correct serious distortions resulting from policy failures, has contributed to a continued increase in the incidence of exchange rate action in Fund-supported programs.

The Par Value Era—Emphasis on Demand Management

In the 1950s and 1960s, most stand-by arrangements were granted in support of programs designed to correct balance of payments problems that were moderate and uncomplicated by structural distortions in the economy. In view of the then-prevailing emphasis on maintaining par values, the adjustment process tended to rely mainly on demand management. Even so, there were many instances of stand-by arrangements that were granted to overcome payments difficulties of a more deep-seated character, often where balance of payments pressures had persisted for several years. These cases met the requirement under the par value system that exchange rate changes were to occur only in the event of a “fundamental disequilibrium.” Exchange rate action was thus a central element in such programs.

Of 85 upper credit tranche stand-by arrangements

approved from 1963 to 1972, 26 (31 percent) involved action on the exchange rate or the exchange system (Table 1).¹² Of the programs that did not include such action, about half were designed to correct overexpansionary demand management policies, and the remainder were intended to facilitate external debt rescheduling or to deal with problems, such as the impact of recession and temporary shortfalls in export receipts, for which exchange rate action was not considered a necessary solution.

Increasing Emphasis on Medium-Term Structural Adjustment (1973–80)

With the growing strains in the par value system at the end of the 1960s, the Fund increasingly emphasized flexibility in exchange rate policy. In 1970, for example, the Fund’s first comprehensive review of the mechanism of exchange rate adjustment noted:

“In the past, adjustment of parities has often been considered appropriate only when evidence of fundamental disequilibrium has become overwhelming. If it were desired to increase the likelihood that necessary exchange adjustment would be prompt and to reduce the risks of delay, such adjustment might be implemented as soon as evidence of fundamental disequilibrium had become substantial, rather than overwhelming.”¹³

The sharp shifts in terms of trade, economic activity, and inflation rates associated with the major changes in oil prices in the 1970s meant that for many countries exchange rate action was a necessity if they were to return to a viable balance of payments position. At the same time, however, readily available international finance permitted many of them to postpone adjustment longer than before.

¹² See Reichmann and Stillson (cited in footnote 1). The study excluded arrangements where significant net purchases (not less than one half of a credit tranche) did not occur.

¹³ *The Role of Exchange Rates in the Adjustment of International Payments: A Report by the Executive Directors, (September 1970)* (Washington: International Monetary Fund); reproduced in Margaret Garritsen de Vries, *The International Monetary Fund 1966–1971: The System Under Stress, Vol. II: Documents* (Washington: International Monetary Fund, 1976), p. 310.

Table 1. Exchange Rate Action in Programs Supported by the Use of Fund Resources in the Upper Credit Tranches, 1963–83

	1963–72	1973–80	1981–83	1981	1982	1983
Programs supported by						
Stand-by arrangements	85 ¹	77	69	17	21	31
Extended arrangements	—	17	16	10	2	4
Total	85	94	85	27	23	35
<i>Of which, members of currency unions²</i>	<i>4</i>	<i>9</i>	<i>19</i>	<i>7</i>	<i>4</i>	<i>8</i>
Programs involving exchange rate action						
Stand-by arrangements	26	39	43	9	12	22
Extended arrangements	—	11	11	6	2	3
Total	26	50	54	15	14	25
(Percent)						
Proportion of programs involving exchange rate action						
Stand-by arrangements	31	51	62	53	57	71
Extended arrangements	—	65	69	60	100	75
All arrangements	31	53	64	56	61	71
<i>Proportion of programs excluding members of currency unions³</i>	<i>32</i>	<i>59</i>	<i>82</i>	<i>75</i>	<i>74</i>	<i>93</i>

Source: Fund staff estimates.

¹ Excludes arrangements where significant net purchases (not less than one half of one credit tranche) did not occur.

² Includes countries for which a foreign currency is legal tender.

³ No programs with members of currency unions involved exchange rate action.

Moreover, the continuing preference of many countries for avoiding exchange rate action was evident. For example, a Fund staff review of the 1973–75 adjustment programs concluded that the objectives of five of the programs (out of a total of ten not involving a depreciation) could have been better served if they had included a currency depreciation. The review noted: “Because of the impact of exchange rate depreciation on prices and real incomes, the change of the external value of the currency has been a sensitive issue of stabilization programs. If any doubt existed, exchange rate action was postponed and instead the program relied on demand management policies to cope with the balance of payments problem.”¹⁴ Nonetheless, from 1973 to 1980, exchange rate action figured in 51 percent of programs supported by upper credit tranche stand-by arrangements—a considerably higher proportion than in the previous decade.

The increased incidence of exchange rate action demonstrated a growing emphasis on medium-term adjustment through structural reform. Fund-supported adjustment programs had always been oriented toward restoration of viability to the balance of payments over the medium term, but in most cases it was anticipated that the measures adopted in an initial one-year program would be adequate to do so, provided that financial policies remained appropriate. Establishment of the extended Fund facility in 1974 gave explicit

recognition to the need for more time to implement programs where structural reforms were necessary. Of the 17 extended arrangements approved from the inception of the facility through 1980, 11 involved exchange rate action. The overall proportion of stand-by and extended arrangements during 1973–80 that involved adjustment of the exchange rate amounted to 53 percent.

Considerable emphasis also was given to the need for continuing adjustments of the exchange rate. More than half the stand-by arrangements involving exchange rate changes, for example, called for such adjustments during the program period in addition to any initial devaluation. In many of the programs without a change in exchange rate policy, moreover, it could be argued that such action would have been desirable. In four of the 1980 programs, for example, requests for the arrangements presented to the Fund’s Executive Board made it clear that a change in the exchange rate was under study by the authorities. In each program, understandings were to be reached on exchange rate policy at a later date.

The Prevalence of Exchange Rate Action (1981–83)

The adverse circumstances of the non-oil developing countries in the early 1980s have resulted in a sharp increase in recent years in the number of adjustment

¹⁴ See Johnson and Reichmann (cited in footnote 1).

programs supported by use of Fund resources in the upper credit tranches. The overall incidence of exchange rate action in such programs has also risen sharply. During 1981–83, the incidence was 64 percent. In contrast to earlier years, countries which were members of currency unions or in which a foreign currency was legal tender accounted for a large number of the 1981–83 programs. Excluding such countries where exchange rate adjustment would require major changes in institutional arrangements, only 18 percent of Fund-supported adjustment programs during 1981–83 did *not* involve a change in exchange rate policy. Even some of these had previous or subsequent programs that included exchange rate action.

The incidence of exchange rate action was particularly marked in 1983. During that year only two programs with countries which were neither members of currency unions nor using a foreign currency as legal tender did not include an adjustment of the exchange rate. In both countries longstanding parities vis-à-vis the U.S. dollar resulted in an emphasis on stability of the exchange rate as a proximate policy objective. In this sense, they could be considered similar to members of currency unions.

The increasing resort to exchange rate action was a consequence of the continuing deterioration of the economic position of the non-oil developing countries at a time when the availability of external finance was declining sharply. This deterioration can be seen both in balance of payments developments¹⁵ and in various indicators of movements in relative prices, some of which are set out in Table 2. Domestically, inflation rates remained high, and in each of the years 1979–83 the median inflation rate involved a rise in consumer prices of at least 2.6 percent relative to the industrial country average. Despite the large number of countries undertaking exchange rate action during these years, most countries lost competitiveness. The median real effective exchange rate index increased each year to reach a level, by 1982, almost 10 percent above that of 1978. For one quarter of developing countries the increase in the real effective exchange rate index

Table 2. Non-Oil Developing Countries: Selected Indicators of Relative Prices, 1979–83

	1979	1980	1981	1982	1983
Median increase ¹ in consumer price index relative to average increase for industrial countries (percent)	2.7	2.6	3.5	3.8	5.0
Real effective exchange rate (1978 = 100)					
Median	100.0	101.0	106.3	109.3	106.6
Upper quartile	103.0	106.6	114.5	119.4	123.3
Average terms of trade (1978 = 100)	100.7	96.9	91.9	89.3	91.0

Sources: Country authorities; and Fund staff estimates.

¹ Use of the median instead of the mean avoids giving a disproportionate weight to a few very high inflation countries.

approached or exceeded 20 percent. Inflation rates declined in both developing and industrial countries in 1982 and 1983. The decline in 1983 was relatively much sharper in the industrial countries, and the median increase for the developing countries involved a rise in consumer prices of 5 percent relative to the industrial country average. More vigorous exchange rate action in 1983, however, succeeded in reducing somewhat the median real effective exchange rate index, though it remained substantially above its 1978 level and the upper quartile continued to increase. In each of the years 1980–82 the terms of trade for non-oil developing countries deteriorated, and with only a slight recovery in 1983 the cumulative deterioration since 1978 was nearly 10 percent.

Because countries needing adjustment could no longer postpone it through new external borrowing, an active exchange rate policy was usually essential both to reverse the inflation-induced erosion of profitability in the traditional tradable goods sectors and to provide incentives for the production of new tradables to counter the unfavorable external developments. The growing international experience with exchange rate adjustment also may have allayed some of the earlier misgivings about the use of this instrument. In addition, there may have been a lessening of concern that changing the exchange rate would be construed as an admission of failure of economic policies.

¹⁵ Most recently summarized in the *World Economic Outlook, April 1985: A Survey by the Staff of the International Monetary Fund* (Washington: International Monetary Fund, 1985).

IV Indicators Used in Exchange Rate Assessment

The objective of Fund-supported adjustment programs is to bring about a viable balance of payments in the medium term. The formulation of exchange rate policies in such programs takes into account the overall stance of domestic and foreign policies, as well as prospective internal and external conditions over the medium term. Such an analysis may bring out the implications of various exchange rate policies, or, conversely, may be used to indicate the exchange rate policy consistent with a given set of assumptions about exogenous developments and the stance of other policies.

A variety of exchange rate indicators are available for use in such a framework to indicate both the need for an exchange rate action and its general magnitude. These indicators also can provide a basis for determining the amount of the action. If the rate is to be managed, indicators are needed as a guide to what the exchange rate should be, or how it should change over time. Even where the rate itself is to be determined by the market—that is, where the rate is floated—indicators play an important role in assessing the sustainability of the rate in light of the medium-term objectives of the program, thus helping to guide the formulation of other program policies.

While no one indicator is wholly reliable for assessing the exchange rate, if a number of them are used in combination, and if proper account is taken of their statistical and methodological limitations, an informed judgment can be made. Because indicators are interpreted in the context of a medium-term adjustment program, conclusions drawn from them need to be modified in the light of other developments, the stance of other policies, and, of course, the program objectives. In particular, because all indicators are in some sense based on the historical structure of the economy, conclusions drawn from them need to take into account any necessary structural changes in the economy.

Elasticities

Assessment of the degree of responsiveness of the elements of the balance of payments to the exchange

rate—elasticities analysis—is integral to the formulation of exchange rate policies. Often the use of elasticities is implicit. A medium-term scenario, for example, may be expressed in terms of there being general consistency among the various values projected. The test of consistency, in effect, is that the implied elasticities be reasonable.

Elasticities may also be employed more formally, through econometric estimation followed by simulation, to arrive at a recommendation on the exchange rate, given a set of objectives and policies in other areas. Such estimation can be performed with varying degrees of sophistication. A simple and commonly employed approach relies on reduced form export-supply and import-demand functions to derive the effects of specified exchange rate adjustments on the current account. By influencing domestic relative prices, an exchange rate adjustment exerts real effects on import demand and export supply. The elasticity of demand for tradable goods, which partly determines the import-demand and export-supply responses, will depend largely on the income effects of the devaluation and the accompanying policies, because the elasticity of substitution between tradable and nontradable goods is likely to be small. In addition, the elasticities of import demand and export supply will depend on the supply response in the tradable goods sector.

Econometric estimates of supply elasticities vary widely, depending on the choice of country and commodity, the period covered, and the methodology. Hence, an evaluation of the expected supply response needs to take into account the country's particular circumstances. Specifically, the size and speed of the supply response depend on the extent to which it results from (1) putting to use previously idle resources; (2) increased productivity through more intensive use of resources; (3) movement of resources from the nontradables to the tradables sector; and (4) movement of resources, within the tradable goods sector, to more productive employment (e.g., from previously protected import substitutes to exports). The supply response will be quicker and more substantial where the first two conditions prevail than in cases where a transfer of resources and an associated contraction in

other sectors is required. The supply response also will be more favorable in countries where resource mobility is high. Among other things, resource mobility depends on the flexibility of markets and the adequacy of infrastructure. The supply response also depends on the gestation period of investment, which may vary widely according to the particular circumstances of individual countries.

In contrast to the indicators of competitiveness discussed below, elasticity analysis has the advantage that it is not limited to comparison with a particular base period. It also lends itself to formal modeling of the way factors, other than the exchange rate, affect the balance of payments. Like indicators of competitiveness, however, it is based on historical experience, and accordingly needs to be qualified in the presence of structural change. Data limitations, moreover, often make reliable econometric estimates of elasticities difficult to obtain.

Indicators of Competitiveness

Real Effective Exchange Rate Indices¹⁶

The indicator of competitiveness most commonly employed in determining the appropriate level of the exchange rate is the real effective exchange rate index, which is formulated as the nominal effective exchange rate index adjusted for movements in prices or costs at home relative to those abroad. An increase¹⁷ in a country's real effective exchange rate index over its level in a base period when the external position was considered adequate thus provides an indication that external competitiveness has deteriorated. Competitiveness can be restored to its base period level through a change in the nominal exchange rate, a change in the level of domestic prices or costs relative to those abroad, or some combination of the two.

Real effective exchange rate indices can be constructed with various patterns of partner country weights and with various indicators of costs or prices. The country weights used in indices developed in the Fund typically reflect bilateral non-oil trade flows,

although in some instances they reflect the importance of export competitors in foreign markets. In developing countries, the consumer price index is commonly used as an indicator of cost developments domestically and abroad, because better indicators, such as unit labor costs, are usually not available. The consumer price index is generally preferable to the wholesale price index, because the former gives a larger weight to nontraded goods, thereby reflecting more fully developments in costs and prices of domestically produced goods and services. The consumer price index is preferable also because it is an important determinant of labor costs.

Certain features of consumer price-based real effective exchange rate indices need to be taken into account in interpreting the indices. First, in the presence of differing productivity trends across countries and across sectors, such indices are meaningful proxies for changes in relative costs only in the short run. Second, where exchange rate adjustments and other policy changes are being undertaken to correct an inappropriate exchange rate, the desired adjustment of relative prices is likely to involve a divergence between unit labor costs and consumer prices. This is particularly so if traded goods are prominent in the consumer price index. Under these circumstances, an increase in consumer prices might be associated with successful adjustment of an overvalued currency, and would not necessarily indicate a need for further adjustment. On the other hand, where the exchange rate is rigid or adjusted sluggishly in the face of relatively high domestic inflation, the same argument suggests that the index might understate the extent of real appreciation. Third, wage or price controls also give rise to divergences between movements in unit labor costs and consumer prices, and need to be taken into account in interpreting the indices.

While the limitations of real effective exchange rate indices, like those of other indicators, need to be kept in mind in using them, such indices have an important advantage in that competitiveness—relative profitability—as a concept is relatively easy to interpret and discuss. Other indicators, such as elasticities, may have less intuitive appeal.

In using real effective exchange rate indices, however, it will often be necessary to go beyond restoring competitiveness to the level prevailing in some base period when the country's external position was regarded as sustainable. If domestic and foreign policies and conditions are more adverse than in the base period, there will normally be a need for both decreased real domestic absorption and an expansion in the tradable goods sector in relation to its previous size. This would apply, for example, when a country's terms of trade have deteriorated, resulting in a decline in

¹⁶ A recent comprehensive review of the concept of real effective exchange rates may be found in Edouard B. Maciejewski, "Real Effective Exchange Rate Indices: A Re-Examination of the Major Conceptual and Methodological Issues," *Staff Papers*, International Monetary Fund (Washington), Vol. 30 (September 1983), pp. 491–541.

¹⁷ All references to exchange rates in this paper refer to the price in foreign currency of the domestic currency; increases in the real effective exchange rate index imply a real effective appreciation.

real income and an external imbalance. This would require improved competitiveness beyond that of the base period. In many cases, moreover, long-standing disequilibrium, during which the balance of payments deficit has been held to financeable levels only through severe restrictions, means that competitiveness needs to be enhanced beyond the level recorded in any recent period.

Internal Terms of Trade

The internal terms of trade index (ratio of prices of traded goods to those of nontraded goods) is an indicator of the internal competitiveness of the traded goods sector, i.e., its ability to compete with the nontraded goods sector for scarce factors of production. Such a relative price index has the advantage that it reflects adverse developments in external prices, which are likely to be particularly important in the case of primary exporting countries.

While traded goods price indices are relatively common (e.g., import and export unit values), nontraded goods price indices are more difficult to calculate because commonly available price indices, such as consumer price indices, wholesale price indices, and gross domestic product deflators, generally do not separately identify nontraded goods. Consequently, movements in the ratio of an index of traded goods prices to any of these indices would tend to understate changes in the internal terms of trade.

Internal terms of trade indices share many of the limitations of real effective exchange rate indices. For instance, changes in the internal terms of trade that result from differing productivity trends among sectors do not indicate changes in the profitability of the traded goods sector. As with real effective exchange rate indices, moreover, internal terms of trade indices focus on changes that have occurred in competitiveness after some base period and do not allow for other developments that also affect a country's external position.

Commodity-Specific Analysis

In most developing countries, production of tradables is concentrated in a few key commodities. Analyses of developments for particular commodities can help avoid the aggregation problems inherent in broad indicators of competitiveness. Such analyses can be used retrospectively to determine the change in the exchange rate needed to restore the profitability of production of particular commodities to the level observed in some base period, but can also be helpful

in considering what the response to different exchange rates is likely to be.

Commodity analyses can obviously be carried out with varying degrees of sophistication. The domestic resource cost approach¹⁸ is particularly appropriate where distortions in costs and prices are widespread in the context of publicly administered prices and resource allocation. Under these conditions, an exchange rate action, even if accompanied by proper macroeconomic policies, would not direct resources via price to the most productive uses. Likewise, competitiveness indicators yield biased results to the extent that they reflect distortions in the economy.

The domestic resource cost approach derives the domestic cost of producing exports and import substitutes per unit of foreign exchange earned or saved, after correcting for all price distortions and netting out taxes and subsidies. This provides for each commodity an implicit exchange rate (local currency per unit of foreign currency), allowing a ranking of activities according to comparative advantage and an assessment of the prevailing exchange rate. A structural reform based on such information would ensure that government decisions on prices and allocation of resources are consistent with considerations of comparative advantage. Furthermore, the information on implicit exchange rates, together with estimates of the potential output of individual traded goods, would allow the construction of a supply curve of exportable and importable commodities as a function of the exchange rate. The appropriate exchange rate could then be determined on the basis of a more comprehensive analysis that takes into account demand conditions and balance of payments objectives.

An important advantage of the domestic resource cost approach is that it focuses directly on profitability, the key consideration in production decisions. Because of its data requirements, however, it seldom can be rigorously applied. Moreover, by focusing on major commodities, it may tend to divert attention from other aspects of the balance of payments and from the way in which the exchange rate interacts with other policies. It is particularly important to guard against the temptation to resort to piecemeal adaptations of policies with respect to specific commodities rather than to aim at comprehensive adjustment of price and exchange rate policies. Even more than other indicators, therefore, the results of an analysis of domestic resource costs need to be checked against other relevant information.

¹⁸ See Karim Nashashibi, "A Supply Framework for Exchange Reform in Developing Countries: The Experience of Sudan," *Staff Papers*, International Monetary Fund (Washington), Vol. 27 (March 1980), pp. 24–79.

Parallel Markets

None of the indicators discussed so far reflects market forces directly, and thus there is no guarantee that they accurately reflect the opportunity cost of foreign exchange. Even where the exchange rate continues to be set administratively, indicators based on market developments can be helpful in exchange rate management.

The existence of a parallel or secondary market, where a portion of current transactions takes place at floating exchange rates that are more depreciated than the rate in the official market, is *prima facie* evidence that the official exchange rate is inappropriate. A distinction may be made between legal and illegal parallel markets in this regard. A *legal* parallel market typically is introduced when the authorities, instead of proceeding with a uniform devaluation to correct an external imbalance, decide to establish, generally as a transitional measure, a dual (or multiple) exchange rate system. In such systems, some transactions, such as certain essential imports and specified exports, are carried out at the relatively appreciated official rate, while other transactions, which often include capital flows, are assigned to a legal secondary market. If the exchange rate in the secondary market is floating, it can help determine the appropriate level for the unified rate, although its significance depends on the importance of the secondary market and the extent to which it is free to reflect market forces.

The smaller the secondary market (as measured by the value of foreign exchange transactions) relative to the official market, and the higher the demand and supply elasticities of foreign exchange in the official market relative to the secondary market, the closer the equilibrium unified rate is likely to be to the official rate. However, if there is a large unsatisfied demand in the official market which cannot be diverted to the parallel market because of administrative restrictions, the equilibrium rate in a unified market would tend to be closer to the parallel market rate, or could even be beyond it.

The rate prevailing in an *illegal* parallel market is a less reliable indicator of the restriction-free equilibrium exchange rate. That market's supply of foreign exchange can come from a variety of sources. These could include proceeds from smuggled goods, over-invoicing of imports, underinvoicing of exports, and unrecorded workers' remittances. With a strict enforcement of the foreign exchange controls, the penalty for dealing in such a market can be substantial, reducing the total (i.e., official and parallel market) demand for and supply of foreign exchange relative to their

restriction-free levels, and limiting the size of the parallel market. In general, the exchange rate in an illegal parallel market will be more depreciated than the restriction-free exchange rate.¹⁹ Due to the probable thinness of an illegal market, the rate is also likely to be subject to significant fluctuations.

An intermediate situation is that of an illegal, but tolerated, parallel market. Since participants in such a market typically operate outside normal channels, transaction costs are likely to be higher than in a legal parallel market, though lower than in a strictly illegal one. A strictly illegal market often develops into a tolerated one as its scope of operations expands and the authorities recognize its relative benefits and inevitable character.

Other Considerations

This section has emphasized the fact that exchange rate indicators cannot be considered in isolation. The recommendations that result from them need to be developed in the context of the objectives of the program and its other policies. Likewise, the recommendations also need to take account of developments that particular indicators may not fully capture. For example, as noted above, a deterioration of the terms of trade from some base period implies a need to enhance competitiveness beyond the level recorded in the base period. Similarly, indicators of exchange market pressures, such as persistent intervention in one direction, rising foreign borrowing, growth of arrears, or stricter rationing of foreign exchange, can provide qualitative guidance. The following section discusses some of the ways in which conclusions derived from main indicators are modified in the light of such circumstances.

¹⁹ Depending on whether the penalty costs are higher on the supply or demand side, it has been shown that the parallel rate can be either higher or lower than the restriction-free equilibrium rate. See, for example, Michael Michaely, "A Geometrical Analysis of Black-Market Behavior," *American Economic Review* (Nashville, Tennessee), Vol. 44 (September 1954), pp. 627-637; and Michael Nowak, "Quantitative Controls and Unofficial Markets in Foreign Exchange: A Theoretical Framework," *Staff Papers*, International Monetary Fund (Washington), Vol. 31 (June 1984), pp. 404-431. However, these theoretical results, based on partial equilibrium analysis, assume that the existence of exchange controls does not affect consumer preferences and that expectations are unchanged. In fact, the imposition of exchange controls alone and the emergence of expectations of further depreciations are likely to increase the demand and reduce the supply of foreign exchange, thereby resulting in the parallel rate being more depreciated than the restriction-free equilibrium rate.

V Formulation of Exchange Rate Policies in Adjustment Programs Approved in 1983

The 35 adjustment programs supported by the Fund with upper credit tranche stand-by or extended arrangements approved in 1983 were examined in some detail. A high proportion of the programs—71 percent—included action on the exchange rate.

Ten arrangements approved in 1983 were in support of adjustment programs that did not include exchange rate action. Six of these involved members of currency unions—Central African Republic, Grenada, Mali,²⁰ Niger, Senegal, and Togo—while in two others, Liberia and Panama, the U.S. dollar is legal tender. Because exchange rate changes in such countries would involve major institutional changes or joint action with other countries, there is a strong presumption that, if at all possible, adjustment should be carried out without resort to exchange rate action. The programs with Guatemala and Haiti also excluded exchange rate action, because the need was not considered great enough at the time the programs were designed to require departure from the long-standing parities vis-à-vis the U.S. dollar exhibited by their currencies. The ten cases where no exchange rate action was taken are discussed separately below.

The other 25 programs involved exchange rate action. In 11, frequent small depreciations were already a feature of exchange rate policy, though each of these programs somewhat modified previous policy, and in most there was a significant discrete devaluation at the outset. (See Table 3, details of which are discussed below.) In the remaining 14 countries, the currency was pegged to another currency or currency basket. In eight of these, one or more substantial depreciations had taken place in the previous year or two. Only six programs involved a change in a long-standing peg. Fifteen of the 25 arrangements followed immediately, or not long after previous arrangements. In several of

these, the policy to be followed was largely a continuation of that implemented in the previous program. However, in most of them, problems in achieving the objectives of the previous program, either because of difficulties in policy implementation or because of further deterioration of the external environment, occasioned major shifts in exchange rate policy.

This section begins with a discussion of the considerations which formed the basis for changes in exchange rate policies that were incorporated in the 1983 programs. This is followed by discussion of the mechanism through which the exchange rate adjustment was implemented, including adaptations of policies in response to the particular circumstances of countries. The paper does not attempt to assess the effectiveness of the exchange rate actions. Such an assessment would have to be conducted within the broader framework of a case-by-case analysis of each adjustment program as a whole, and is beyond the scope of this study.

Besides references in the text to the experience of individual countries, the case studies in the appendix illustrate the variety of circumstances of countries seeking Fund support and the range of approaches that can be taken in selecting a set of policies to eliminate economic imbalances and adequately strengthen the balance of payments. One study is on Ghana, where the need for exchange rate action was evident from the outset, but the appropriate amount needed to be established. The other studies are on Sri Lanka, where there was a long history of economic adjustment involving exchange system liberalization and where the examination of exchange rate questions was thus particularly detailed, and Ecuador, where market mechanisms played a large role in exchange rate adjustment.

The Process of Formulating Exchange Rate Policies

In considering the process through which exchange rate adjustments were determined in the 1983 pro-

²⁰ Mali was not a member of a currency union at the time the program was approved, though its accession to the West African Monetary Union took place during the program period. In view of the similarity of its institutional arrangements to those of other CFA franc countries, it is classified here with members of currency unions.

Table 3. Mechanism of Exchange Rate Adjustment in Programs Approved in 1983¹

Country/ Month of Board Approval	Initial Exchange Rate Action	Subsequent Exchange Rate Policy Called for in Program
Flexible policy—frequent adjustment of exchange rate		
Argentina (January)	On July 5, 1982, a dual (commercial and financial) market was established. The commercial rate was adjusted daily. The financial rate was allowed to float for several weeks and then pegged at a rate that was lower than the commercial rate. The two markets were unified at the financial rate on Nov. 1, 1983, after which the unified rate was depreciated daily.	U.S. dollar rate for the peso to be adjusted in line with domestic inflation as measured by Argentina's wholesale price index.
Bangladesh (March)	There was a gradual depreciation from June 1982. In Jan. 1983 the intervention currency was changed from the pound sterling to the U.S. dollar.	Real effective appreciation to be avoided.
Brazil (March)	In addition to frequent small adjustments, the cruzeiro was devalued by 23 percent on Feb. 21, 1983.	Depreciation against the U.S. dollar by the amount of domestic inflation, as measured by a specific index.
Korea (July)	Between Nov. 1982 and March 1983, the won was depreciated by about 5 percent relative to the U.S. dollar.	Exchange rate to be managed flexibly to protect the competitiveness of the export sector and achieve the balance of payments objectives.
Morocco (September)	The dirham was devalued by 10 percent in Aug. 1983.	Phased depreciation of the dirham, aimed at preventing real appreciation.
Philippines (February)	Between April 1982 and Feb. 1983, the peso was gradually depreciated by 8 percent relative to the U.S. dollar.	Nominal depreciation in an amount aimed at meeting a target for real depreciation.
Portugal (October)	The escudo was devalued by 12 percent in June 1983, after a predetermined crawl of 1 percent monthly depreciation against a trade-weighted basket.	Continuation of monthly depreciation.
Sri Lanka (September)	The rupee was depreciated against the U.S. dollar by 7.4 percent during the period from Dec. 1982 to June 1983, and by an additional 5 percent in July 1983.	Real effective appreciation to be avoided.
Turkey (June)	The 1983 stand-by arrangement was immediately preceded by a 3-year stand-by arrangement during which there had been a real effective depreciation of 11 percent.	Real depreciation during the adjustment period.
Uganda (September)	In July 1983, non-oil cash imports and exports other than coffee and cotton were shifted from Window I (where the rate was set by the authorities) to Window II (where the rate was auction-determined). Minimum central bank sales in Window II were increased.	Exchange rate at Window I to decline faster so as to decrease the spread between the two rates.
Uruguay (April)	Replacement in Nov. 1982 of a preannounced crawling peg with a free floating system without Central Bank intervention.	Continuation of free float until the peso found a stable equilibrium level. Subsequently, exchange rate to be managed flexibly.
Pegged—one or more substantial devaluations in recent years		
Ecuador (September)	In March 1983, the sucre in the official market was devalued by 21 percent and was subsequently depreciated in relation to the U.S. dollar by about 0.1 percent per working day. In June 1983, 30 percent of proceeds from nontraditional exports and an equivalent value of imports were transferred to the parallel market.	Depreciation of the sucre in the official market to continue.
Kenya (March)	The shilling was devalued by 15 percent relative to the SDR between Dec. 1982 and early Jan. 1983.	Exchange rate to be adjusted taking into account relative price developments, the reserve position of the Central Bank and the restrictiveness of the import and payments system.
Madagascar (December)	In Oct. 1983, the franc was devalued by 9.5 percent against the currency basket to which it was pegged.	Adjustment of the rate so as to avoid real appreciation.

Table 3. (concluded) Mechanism of Exchange Rate Adjustment in Programs Approved in 1983¹

Country/ Month of Board Approval	Initial Exchange Rate Action	Subsequent Exchange Rate Policy Called for in Program
Pegged—one or more substantial devaluations in recent years (concluded)		
Malawi (September)	The kwacha was devalued by 11 percent in Sept. 1983.	Real exchange rate to be maintained.
Mauritius (May)	In Feb. 1983, the rupee was unlinked from the SDR and pegged to a trade-weighted currency basket.	Flexible management of the exchange rate to maintain competitiveness.
Sudan (February)	In Nov. 1982, the pound in the official market was depreciated by 31 percent in terms of the U.S. dollar.	Flexible management of the exchange rate taking into account the behavior of the U.S. dollar, domestic inflation, and balance of payments developments.
Zaire (December)	In Sept. 1983, the zaire was depreciated by 78 percent in terms of the SDR and a temporary dual exchange rate system was introduced. Initially, the free market rate was set by the commercial banks in consultation with the Central Bank; beginning in Oct. 1983, it was set in an interbank foreign exchange market and the spread between the two rates was reduced from 10 percent to less than 5 percent.	Continued float in the free market, with eventual unification.
Zambia (April)	In Jan. 1983, the kwacha was devalued by 20 percent.	Depreciation during the adjustment period.
Pegged—no changes in recent years		
Chile (January)	On June 15, 1982, the peso was depreciated and a 12-month exchange rate schedule was announced. On Aug. 5, 1982, the peso was allowed to float, resulting in a sharp depreciation. From Sept. 1982, a policy of gradual depreciation relative to the U.S. dollar equal to the difference between the previous month's rate of change of domestic consumer price index and the external rate of inflation (estimated at 1 percent per month) was adopted. (On Sept. 3, 1982, a preferential rate was established to be applied on foreign debt service payments and adjusted daily relative to the U.S. dollar on the basis of the change in the consumer price index in the previous month.)	Continuation of Sept. 1982, policy until March 1983. Beyond that date, real value of the peso to be kept constant.
Dominican Republic (January)	In Oct. 1982, the parallel foreign exchange market was further institutionalized by permitting bank participation. In Nov. 1982, incentives to traditional exports were given through a system of exchange certificates.	Scope of the parallel market to be widened through the shift of some import transactions from the official market.
Ghana (August)	In April 1983, a dual exchange rate system was introduced resulting in a weighted average depreciation of 89 percent relative to the U.S. dollar.	The two exchange rates to be depreciated quarterly so that the weighted average exchange rate would remain constant in real effective terms.
Solomon Islands (June)	In Aug. 1982, the dollar was devalued by 14 percent; the settlement currency-weighted basket peg was replaced by a trade-weighted one; and the Central Bank was empowered to make changes of up to 2 percent on either side of the peg in any four-week period.	Nominal effective depreciation so as to prevent loss in competitiveness.
Western Samoa (June)	The tala was depreciated by 17.5 percent in nominal effective terms between Feb. and May 1983.	Flexible exchange rate policy to maintain competitiveness.
Zimbabwe (March)	In Dec. 1982, depreciation by 17 percent relative to the U.S. dollar; further depreciation by 5 percent in Jan. 1983. In Dec. 1983, the basket peg was changed to reflect trade weights rather than settlement weights (resulting in smaller weight for U.S. dollar).	Periodic adjustments to prevent real appreciation.

Source: Country authorities.

¹ Classified by exchange rate policy prior to change in policies associated with program.

grams, it is important to bear in mind that, when work on an adjustment program formally begins, a general understanding of the nature of the problem usually already exists. Indeed, often there has already been extensive detailed analysis. Accordingly, objectives and constraints facing the authorities have generally been defined, and there is usually a general idea of the feasible range of demand management and other policies. From this starting point, an analytical framework is developed which considers exchange rate policies in relation to other policies and in relation to the whole range of program objectives.

This section does not attempt to deal with the full complexity of the formulation of exchange rate policies or the overall design of adjustment programs. Rather, it focuses on three main aspects: the circumstances facing the countries at the time they undertook exchange rate adjustment; the major ways in which exchange rate action was expected to improve the allocation of resources, both to correct the balance of payments and, more generally, to improve the overall functioning of the economy; and, finally, the way in which the precise amount of exchange rate action was determined, once the broad orders of magnitude had been established through the general analysis of the need for adjustment.

Circumstances Facing Countries Undertaking Exchange Rate Adjustment

Most of the 25 countries that followed an active exchange rate policy in their 1983 adjustment programs had, like most other developing countries, been affected by a deterioration in external conditions. This deterioration was due to a weakening of the external terms of trade, a rise in international interest rates, and an increasing reluctance of financial institutions to increase their exposure to developing countries. Moreover, most had followed financial and exchange rate policies that had resulted in a loss of external competitiveness. Table 4 presents a few indicators which capture certain essential aspects of the external performance of these countries. The data refer to 1982, the year in which work began on the design of most of the programs approved in 1983. The indices in the table measure changes since 1978, when most developing countries faced external conditions considerably more favorable than in the early 1980s.

All but three of the 25 countries following an active exchange rate policy had experienced a significant deterioration in terms of trade between 1978 and 1982. The exceptions were Argentina and Ecuador, which were self-sufficient in energy, and Zimbabwe, which benefited from the lifting of trade sanctions on its exports and imports. The deterioration in the terms of

trade had exceeded 10 percent in all but one of the other countries. In 10 countries, the deterioration had been particularly severe, exceeding 20 percent.²¹ In addition, developments since 1980 in the international capital markets adversely affected a large group of countries that had relied on external commercial borrowing to finance their current account deficits.²² The rise in real interest rates had sharply increased the burden of debt service for a large number of these countries, particularly those in the Western Hemisphere. At the same time, beginning in 1982, foreign commercial banks sharply curtailed the external financing provided to the major borrowers among these countries.

The deterioration in external conditions suggested a need for exchange rate and demand management policies consistent with an enhancement of competitiveness, but most of the 25 countries had experienced excess demand and real appreciation of their currencies.²³ In seven of the countries, the real appreciation since 1978 had exceeded 10 percent. A beginning had been made toward real depreciation in previous programs for nine countries, but in only five of them had the real depreciation been more than 10 percent.²⁴

Given the combination of deteriorating terms of trade and lack of real depreciation, most of the countries concerned were encountering severe current account problems.²⁵ Eighteen had deficits exceeding 5 percent of gross domestic product in 1982. Such deficits were likely to be unsustainable for most, given their deteriorating access to foreign private capital, the unfavorable prospects for concessional aid, and problems of capital flight. In many of these countries, moreover, the deficit was held to that level only through severe demand restraint or exchange and trade restrictions. Of the countries with smaller deficits, Argentina and Brazil were encountering such severe deterioration in their access to capital markets that even seemingly moderate deficits were not financeable. In Ghana, Sudan, and Uganda, small deficits reflected a lack of

²¹ Over the same period, the terms of trade for the net oil importers among the developing countries deteriorated on average by 15 percent, compared with a deterioration of 10 percent for industrial countries.

²² Including Argentina and Ecuador, which had not been adversely affected by an increase in oil prices.

²³ The second quarter of 1982, rather than the whole year, is chosen as the reference period for real effective exchange rates because shifts in exchange rate policy in a number of program countries began in the second half of 1982.

²⁴ Note that severe external imbalance and overvaluation of the currency had already characterized the positions of these countries in 1978.

²⁵ Although, for purposes of comparison, the discussion here focuses on the ratio of the external current account balance to gross domestic product, it must be recognized that the severe distortions of relative prices in many of these countries make interpretation of such figures problematic.

Table 4. Selected External Sector Indicators: Countries That Took Exchange Rate Actions in 1983 Programs

(Indices are based on 1978 = 100, unless otherwise noted)

	Terms of Trade Index (1982)	Real Effective Exchange Rate Index (Second Quarter 1982)	Current Account Deficit in Percent of GDP (1982) ¹	Gross Official Reserves in Months of Imports (End 1982)	Import Volume Index (1982)	Export Volume Index (1982)
Argentina	113	106	4.4	5.9	126	96
Bangladesh	83	92	8.2 ²	0.6 ²	136	119
Brazil	64	105	4.5	2.4	78	138
Chile	81	143	10.3	6.4	91	134
Dominican Republic	79	102	5.6	1.8	91	90
Ecuador	147	109 ³	9.1	3.4	99	80
Ghana	47	256	—	5.1	62	118
Kenya	68	95	6.2	1.8	51	80
Korea	83	106	3.9	2.7	112	136
Madagascar	87 ²	128	10.7	0.6	57 ⁴	80 ⁵
Malawi	82	96	6.7	0.9	58	116
Mauritius	82	96	5.9 ²	1.1 ²	70	104
Morocco	88	88	8.7	0.8	104	114
Philippines	71	120	8.5	3.9	99	124
Portugal	84	104	13.2	8.1	137	151
Solomon Islands	86	122	6.6	6.1	139	160
Sri Lanka	80	136	11.9	2.1	151	113
Sudan	49	69	2.0 ⁵	0.1	71	106
Turkey	69	73	2.3	1.5	98	187
Uganda	46	78	1.6 ⁵	...	92	135
Uruguay	83	168	8.7	2.6	92	117
Western Samoa	65	104	7.2	1.0	69	133
Zaire	98	65	6.7	0.2 ⁶	74	63
Zambia	72	109	17.3	0.4	113	113
Zimbabwe	112	109	11.5	1.8	173	98

Sources: Country authorities; and Fund staff estimates.

¹ Includes official transfers.² July 1981 to June 1982.³ Represents official rate only.⁴ Base year 1979 = 100.⁵ July 1982 to June 1983.⁶ Excludes gold, most of which is pledged.

access to foreign capital and intensive use of exchange restrictions. Two other countries with relatively modest deficits, Korea and Turkey, had both adopted outward-looking development strategies which required close attention to the maintenance of competitiveness. Moreover, Korea was reducing import duties, while Turkey had a very large external debt and was engaged in dismantling many of the restrictions that had developed during a prolonged period of strain in the balance of payments.

The severity of the crises facing most of these countries is also evident from their low levels of international reserves. In several, reserves had been virtually exhausted. In 18 countries, reserves amounted to the equivalent of less than three months of an already depressed level of imports. Another indication of the severity of the problems confronting these

countries is the behavior of import volumes. Between 1978 and 1982, import volume declined in 16 of the 25 countries, in most of them by substantial amounts.²⁶ In view of the relatively limited potential for import substitution in most of these countries, declines in import volumes tended to be associated with declines in economic activity and levels of consumption. This particular development perhaps best illustrates the circumstances calling for an active exchange rate policy. Such a policy would place a relatively greater emphasis on the expansion of exports and on a more market-oriented allocation of imports as a means of achieving external adjustment, thereby reducing the need for policies that are detrimental to growth.

²⁶ Over the same period, imports by all non-oil developing countries rose in volume terms by 12 percent.

Most of the countries had succeeded in increasing their export volumes somewhat. In seven, however, export volumes declined between 1978 and 1982. The decline exceeded 10 percent in Ecuador, Kenya, Madagascar,²⁷ and Zaïre. In eight countries, the increase in export volume exceeded the average for all non-oil developing countries (29 percent), but still this was not enough in most cases to avoid serious current account problems. The largest increase (87 percent) was registered by Turkey which, having started with a severe external imbalance and a low level of exports, had made considerable progress toward adjustment by 1982. A major factor in Turkey's strong export performance was the real depreciation of 35 percent that had taken place since the end of 1979.

Expected Consequences of Exchange Rate Action

Given the severity of the situations that most of the countries faced, it is not surprising that exchange rate adjustment needed to be considered. Before a firm conclusion could be reached, however, the way the adjustment would contribute to achieving the country's policy objectives in each particular instance needed to be examined in detail. This subsection provides a summary of the expected effects of exchange rate adjustment emphasized in particular cases, either as stated explicitly in the documents presenting the request for a stand-by or extended arrangement to the Fund's Executive Board, or as indicated implicitly in analyses of balance of payments problems in the request papers or consultation reports. The description, which is illustrative rather than exhaustive, focuses on highlights of particular cases. In practice, of course, each favorable effect would be present to some degree in almost all cases, but the relative magnitudes vary widely.

At a general level, most of the papers presenting the requests for arrangements stressed the importance of exchange rate adjustment both as a means of reducing the balance of payments deficit and as a means of improving resource allocation—objectives which are, of course, closely related. In connection with these objectives, the papers also emphasized the need to improve the competitiveness of the country's tradable goods sectors.

Given the fact that for most countries there had already been a sharp reduction or, at best, little increase in imports in recent years, programs seldom emphasized the role of exchange rate adjustment in reducing

import demand in the short run (aside from the way in which its expenditure reduction effects facilitated demand restraint more generally). The opportunity for import substitution over the medium term, when it depended on new investment to create additional production capacity, was commonly noted. In most cases, assessment of the impact of the exchange rate on import demand was made difficult by the fact that the recent behavior of imports had been strongly influenced by, on the one hand, excess aggregate demand that was to be corrected by the adjustment program and, on the other hand, restrictions that had prevented actual imports from reflecting changes in the amount demanded.

The main improvement in the trade balance was usually expected to come from recovery or new growth of exports. In most instances, detailed studies of key exports were an essential component of the underlying analysis. Often the need to restore the profitability of key export industries was the most striking indication of the need to undertake exchange rate action. This was the case in Bangladesh, Ghana, Sri Lanka, Sudan, and Zambia. In primary producing countries, moreover, it was considered essential that there be some diversification into manufactured exports. This was generally predicated on new investment and was expected to take time, so that, as with import substitution, the objective was of a longer-range character. By contrast, where the main objective was to reverse a previous decline in traditional primary exports, the response was often expected to be rapid.

Invisible transactions were also expected to respond to exchange rate action. For some types of transactions, such as tourism and direct investment, enhancement of competitiveness was emphasized. Other types involved more complex considerations of short-run expectations. Problems with emigrant remittances or capital flight, for example, were often considered to be due to a widely held opinion that the exchange rate was unsustainable, which offered a strong incentive to avoid repatriating funds before the expected exchange rate adjustment. Worker remittances were emphasized in Bangladesh, Portugal, Sudan, and Uganda. Capital flight was a widespread problem. In some countries where there had been large capital outflows, as in Argentina, Ecuador, and Uruguay, reversal of these flows was considered to be a means of obtaining a quick improvement in the balance of payments. Overinvoicing and underinvoicing of trade transactions were common means of capital flight in these countries and many others.

Rationalization of the trade and payments system so as to remove excessive import protection and encourage exports was a major reason for undertaking exchange rate action in several countries. In Turkey,

²⁷ 1979–82.

in fact, the major reason for further real depreciation was to facilitate liberalization of the exchange system, although there was also a need to deal with large debt obligations in the medium term. The removal of recently imposed restrictions was often emphasized, as in Morocco and Portugal. Steps to reduce effective protection were often taken, notably in Korea. By contrast, temporary increases in restrictions were adopted in some particularly difficult situations, such as Sudan, though the long-term goal of liberalization was reaffirmed. In some cases, such as Kenya, import duties were increased as a partial substitute for stronger action on the exchange rate. In all instances of multiple rates, the eventual goal was to unify the system. Exchange rate action also was expected to help to eliminate payments arrears.

While this survey necessarily focuses on how exchange rate adjustment in itself was expected to improve the balance of payments and resource allocation, in each case these effects were considered in the context of an overall policy program. In most, it was clear from the outset that it was not feasible to bring about the needed adjustment in relative prices through demand management policies alone. In a few cases, however, where the misalignment of relative prices was not particularly large or entrenched, the decision to take exchange rate action emerged only after the sort of detailed consideration that this section summarizes.

Determining the Amount of Exchange Rate Adjustment

The analytical process described above often established not only the need for exchange rate action, but also the approximate extent of the needed change. It still remained to establish a definite figure for the amount of adjustment, or to select a mechanism which would determine the amount.²⁸ A simple solution was to permit the rate to be set largely by market forces, as was done in the programs in Chile,²⁹ Uruguay, and Zaïre. In other programs discussed below, the adjustment incorporated lesser elements of market determination. In most, however, management of the rate continued and the amount of adjustment was determined through an examination of indicators.

Balance of payments models incorporating elasticities with respect to the exchange rate played a limited

role in specifying the amount of exchange rate adjustment in the 1983 programs. Although experience amply demonstrates the effectiveness of exchange rate adjustment in changing exports and imports, estimates of elasticities, as noted in Chapter IV, are subject to wide margins of error. This is particularly the case in developing countries, where accurate data are often lacking. In countries where there has been rapid structural change, quantification of the potential impact of exchange rate action is particularly imprecise. In Chile, for example, estimates of import and export elasticities were available but were not considered to be very useful, given the major changes that had occurred in recent years in the economic structure and policy framework. Where countries already have a fairly developed manufacturing sector, the responsiveness of production can be gauged with more confidence. Estimates of elasticities were more useful in Korea, for example, than in many other countries.

In 15 adjustment programs,³⁰ indicators of competitiveness based on real effective exchange rate indices were the primary basis for the amount of exchange rate action. In some countries, such as Malawi, an earlier program was considered to have brought the exchange rate to an appropriate level, and the 1983 program involved restoration of the real effective exchange rate to the previously acceptable level. Where no such convenient reference point was available, it was necessary to select some historical period. Because most of the countries faced terms of trade that were extremely adverse by historical standards, it was clear that the real rate had to be considerably lower in a number of cases than it had generally been in the past. One alternative was to match the real rate with the lowest rate that had occurred in recent experience. In Brazil, for example, the initial devaluation was sufficient to restore the real rate to that recorded following the major devaluation of early 1979.

In many of these programs, the consideration of competitiveness indicators was supplemented by detailed studies of the profitability of key export industries (where one or two primary exports predominated) or by the elasticities estimated for manufacturing exports in general, such as in Korea. In Zambia, copper mining was so critical for both external and fiscal balance that the amount of exchange rate adjustment was determined largely on the basis of restoring the profitability of that industry.

These results were checked against developments in parallel market rates. Four programs went further, and took as the basis for action the convergence of

²⁸ As discussed later in the section on the mechanism of adjustment, the adjustment usually involved both an initial devaluation and a subsequent gradual depreciation.

²⁹ Initial devaluation only. A floating exchange rate system was in effect from August 5 to September 26, 1982.

³⁰ Bangladesh, Brazil, Ecuador, Ghana, Kenya, Korea, Madagascar, Malawi, Mauritius, Morocco, Philippines, Solomon Islands, Sri Lanka, Western Samoa, and Zimbabwe.

official and legal parallel markets. In Argentina, the initial action was based on unification of the dual exchange system at the more depreciated of the two rates. In Sudan, the free market accounted for one third of transactions, and the initial exchange rate action was based on narrowing by 70 percent the gap between the official rate and the rate prevailing at that time in the parallel market. In the Dominican Republic, where change in the official rate was considered infeasible, a limited depreciation was accomplished by transferring certain transactions to the parallel market. In Uganda, both convergence and shifts of transactions took place.³¹

In Turkey, the amount of real devaluation was chosen as a reasonable figure consistent with the objective of a gradual liberalization of the exchange and trade system. In Portugal, the amount of the adjustment took into account the need to restore confidence and stem capital flight.

In most programs where the exchange rate was permitted largely to reflect market forces, there continued to be some degree of management of the parallel market or restrictions on access to it, so that the exchange rate was not a true market rate. The appropriateness of the rate thus continued to be checked against the other indicators used in exchange rate assessment.

While a particular basis for the amount of action in each of the 1983 programs can thus be identified, it must be kept in mind that the general order of magnitude of the action was established within the analytical framework that formed the basis for the overall design of the program, and that the role of these indicators was generally limited to selecting a figure in the appropriate range. Given the uncertainties inherent in economic analysis and forecasting, the decision on the amount of devaluation will always be, to some extent, arbitrary. Indicators such as those described above may be extremely useful in reaching a decision, provided that their limitations are kept in mind during application.

In a number of programs, part of the exchange rate adjustment was postponed until later stages. (See the discussion below on the mechanism of adjustment.) As in programs requiring lesser amounts of adjustment, these compromises came at some cost in terms of forgone output and unemployment.

The Mechanism of Adjustment

Ideally, full adjustment of the exchange rate takes place at the outset of a program. This sends a decisive

signal to producers of tradable commodities on which they can base their production plans, and at the same time signals the authorities' intention to adhere to policies consistent with maintaining the new rate. This assumes that inflation is not expected to erode the real effective exchange rate during the program period.³²

In most of the 1983 adjustment programs, inflation was expected to be a continuing, though gradually moderating, problem. Most programs, therefore, envisaged further action during the program to maintain the real depreciation achieved by the initial devaluation. In some programs, the subsequent action was to go further, as part of a strategy that called for part of the real depreciation to be carried out during the program, rather than at the outset. Such gradual action generally leads to greater losses in terms of income and employment for a given amount of real depreciation. Where there is particular uncertainty as to the appropriate amount of adjustment, gradual action may be desirable, though again at the risk of prolonging the adjustment period or running up against financing constraints.

Most of the 1983 programs involved a substantial exchange rate action near the beginning of the adjustment period, sometimes implemented through a gradual process. Often the exchange rate already had been adjusted before the Fund approved the stand-by or extended arrangement (Table 3). Table 5 indicates the change in the real effective exchange rate index from the month before the exchange rate action began to the month the arrangement was approved (or the subsequent month, where substantial action took place in the month of approval); it also indicates the subsequent adjustment during the program period.³³ Even where little change occurred, often there was a significant nominal adjustment that at least prevented real appreciation from occurring.³⁴

In most of the programs, the initial exchange rate action achieved the full desired real depreciation, but

³² The change in relative prices associated with the devaluation will normally imply some increase in the average price level, but with appropriate financial policies the increase will be limited. In determining the amount of nominal depreciation needed to achieve a given real depreciation, allowance needs to be made for the prospective increase in the average price level.

³³ These measures are based on the uniform real effective exchange rate indices used by the Fund in its general monitoring of exchange rate developments. For most of the countries listed in Table 5, consumer price indices are used as an indicator of domestic and foreign cost developments, because better indicators, such as unit labor cost indices, are not available. Other real effective exchange rate indices may also sometimes be appropriate for particular purposes and thus, the indices in Table 5 are not necessarily the same as those used in the design and monitoring of the programs.

³⁴ As noted in Chapter IV, a real effective exchange rate index may underestimate the extent of real depreciation produced by devaluation because of the effect of the latter on prices of tradable goods which may have a significant weight in the consumer price index.

³¹ Movements toward unification of multiple rates also played a role in a number of other countries, as discussed in the following subsection.

Table 5. Implementation of Exchange Rate Policy in Programs Approved in 1983: Developments in Real Effective Exchange Rates Indices

	Real Effective Exchange Rate Index ¹						Changes in Percent		
	Month Preceding Initial Adjustment		Month of Board Approval		Date of Expiration or Cancellation of Arrangement		Initial Adjustment ²	Subsequent Change ³	Total Change
Argentina	(June 1982)	100	(Jan. 1983)	70	(Jan. 1984)	80	-32	15	-20
Bangladesh	(May 1982)	92	(March 1983)	90	(Sept. 1983)	93	-2	3	1
Brazil	(Jan. 1983)	106	(March 1983)	82 ⁴	(Feb. 1986)	88 ⁵	-23	7	-17
Chile	(May 1982)	145	(Jan. 1983)	95	(Jan. 1985)	89 ⁵	-34	-6	-39
Dominican Republic	(Sept. 1982)	101	(Jan. 1983)	96	(Jan. 1985)	65 ⁵	-5	-32	-36
Ecuador ⁶	(Feb. 1983)	119	(July 1983)	111	(July 1984)	98	-7	-12	-18
Ghana	(March 1983)	492	(Aug. 1983)	85	(Aug. 1984)	73	-83	-14	-85
Kenya	(Nov. 1982)	101	(March 1983)	89	(Sept. 1984)	99	-12	11	-2
Korea	(Oct. 1982)	110	(July 1983)	103	(March 1985)	103 ⁵	-6	—	-6
Madagascar	(Sept. 1983)	134	(Dec. 1983)	125	(March 1985)	110 ⁵	-7	-12	-18
Malawi	(Aug. 1983)	105	(Oct. 1983)	95 ⁴	(Sept. 1986)	108 ⁵	-10	14	3
Mauritius	(Jan. 1983)	98	(May 1983)	98	(Aug. 1984)	95	—	-3	-3
Morocco	(July 1983)	86	(Sept. 1983)	80	(March 1985)	82 ⁵	-7	3	-5
Philippines	(March 1982)	118	(Feb. 1983)	108	(Feb. 1984)	99	-8	-8	-16
Portugal	(May 1983)	97	(Oct. 1983)	90	(Feb. 1985)	95 ⁵	-7	6	-2
Solomon Islands	(July 1982)	124	(June 1983)	106	(June 1984)	105	-15	-1	-15
Sri Lanka	(Nov. 1982)	141	(Sept. 1983)	139	(July 1984)	161	-1	16	14
Sudan	(Oct. 1982)	85	(Feb. 1983)	66	(Feb. 1984)	83	-22	26	-2
Turkey	(June 1983)	75	(June 1984)	72	...	-4	-4
Uganda	(June 1983)	48	(Sept. 1983)	43	(Sept. 1984)	30	-9	-31	-37
Uruguay	(Oct. 1982)	176	(April 1983)	100	(April 1985)	99 ⁵	-43	-1	-44
Western Samoa	(Jan. 1983)	102	(June 1983)	92	(June 1984)	89	-10	-3	-13
Zaire	(Aug. 1983)	126	(Dec. 1983)	34	(March 1985)	30 ⁵	-73	-12	-76
Zambia	(Dec. 1982)	119	(April 1983)	103	(April 1984)	85	-13	-17	-29
Zimbabwe	(Nov. 1982)	116	(March 1983)	93	(Sept. 1984)	99	-20	6	-15

Source: Fund staff estimates.

¹ Base year 1978 = 100.² Change between the month preceding initial adjustment and the month of Board approval.³ Change between the month of Board approval and the final month of the arrangement (or December 1984 where the arrangement had not expired by that month).⁴ The month following Board approval has been taken as the reference month so as to reflect fully the effects of an exchange rate action taken in the month of Board approval.⁵ The value of the index refers to December 1984 in the cases of arrangements which had not expired by that date.⁶ Official rate only.⁷ The 1983 stand-by arrangement was immediately preceded by a 3-year stand-by arrangement.

subsequent adjustments were also necessary in some cases to maintain the real rate in the face of inflation, or were expected to occur in response to market forces. Argentina and Brazil adopted a policy of adjusting frequently the U.S. dollar rate broadly in line with the domestic inflation rate. (Full adjustment of the rate in line with domestic inflation would have the effect of producing some real depreciation against the reference currency, as there would be no offset for inflation in the United States. The real effective depreciation would depend on the behavior of the dollar relative to the currencies of other trading partners.) For Chile, daily depreciations were expected to be carried out on the basis of relative inflation. The mechanism that Ghana used was similar, except that it involved quarterly adjustments on the basis of relative inflation during the preceding quarter. For Bangladesh, Malawi, and Sri Lanka, the objective was

to prevent appreciation of the real effective exchange rate index. However, because these countries had relatively moderate inflation, adjustments of the rate were expected to occur only from time to time. In Kenya, Korea, Mauritius, Solomon Islands, Western Samoa, and Zimbabwe, the exchange rate was to be monitored with the aim of preserving competitiveness. Exchange rate policy in Ecuador, Portugal, and Zambia was to be determined largely on the basis of anticipated inflation. In Uruguay, the exchange rate was initially determined without central bank intervention to give time for the exchange rate to find a stable equilibrium level; subsequently, the exchange rate was expected to be managed flexibly. Morocco's policy involved a series of discrete actions during the program period.

In the remaining programs, exchange rate policy aimed at a phased real depreciation, sometimes following an initial adjustment. In some of these, the

phased approach was integral to the design of the program. Turkey's liberalization of restrictions, for example, was to be accompanied by a phased depreciation in addition to adjustments to offset inflation. In Madagascar's program, a planned phasing of the exchange rate action helped effect a faster pass-through to prices. In other examples of phased real depreciation, it was recognized that the change could mean slower progress toward achieving full economic adjustment. In the Philippines, there was particular concern about the social and political consequences of a substantial initial devaluation, so it was planned that the action would be phased during the program period. In Sudan, it was expected that further adjustments of the exchange rate would be made from time to time. The basic adjustment mechanism in the Dominican Republic, Uganda, and Zaïre involved multiple exchange rates.

The principal elements in each program's adjustment mechanisms are as set out above, but other elements were often present that reflected the particular circumstances of the country. Besides the three multiple exchange rate cases already noted, other countries using multiple rates as part of their adjustment mechanisms included Ecuador, Ghana, and Sudan. As with the first three countries, the planned adjustment mechanism in these latter cases generally involved movement toward unification at the more depreciated rate. In Korea and Turkey, exchange rate policy took into account the implications for competitiveness of realignments of major currencies. Given the critical importance of copper exports for the Zambian economy, exchange rate policy was to be kept under review in the context of developments in that sector.

In practice, 15 programs achieved a real depreciation in excess of 10 percent by the end of the program period;³⁵ 7 had real depreciations less than 10 percent, and 3 had real appreciations. (Over the whole period from 1978, 12 had depreciations in excess of 10 percent, while 5 had real appreciations.) In 7 instances, the initial action was reversed or substantially eroded by subsequent real appreciation. Where real depreciation fell short of expectations, weaknesses in implementation were sometimes the cause. External events, such as the unexpected appreciation of the U.S. dollar, were also a factor in some cases.

Formulation of Exchange Rate Policies in Special Circumstances

The importance attached to particular policy objectives and institutional arrangements varies from coun-

try to country. The importance of price stability, for example, is generally accepted, but the vigor with which countries pursue that objective varies, depending on the real or perceived trade-offs with other objectives. Similarly, some countries attach particular importance to stability of the exchange rate because of their institutional arrangements. There is also wide variation in the extent to which countries use planning mechanisms and direct controls—as opposed to relying on market forces—to manage their economies. Central planning is the strongest of this type of institutional arrangement. This section examines some of the issues involved in the formulation of exchange rate policies in such special circumstances.

Close Links to Other Currencies

After the end of the par value system, most countries gradually have come to place less emphasis on exchange rate stability as an overriding objective of economic policy. Nevertheless, a number of countries undertaking Fund-supported adjustment programs have preferred to follow demand management and related policies consistent with maintaining an existing peg, even in cases where it might be argued that adjustment could be achieved more efficiently with exchange rate action.

The different preferences of countries with regard to maintaining an existing peg are, of course, always reflected in the mix of policies. Exchange rate stability, however, continues to have particular importance for members of currency unions and countries with long-standing close links to a major currency. Countries in these categories that did not adjust their exchange rates in adjustment programs undertaken in 1983 are listed in Table 6, which includes data on certain indicators corresponding to those presented in Table 4 for the other program countries. (As noted previously, the Dominican Republic undertook exchange rate action by expanding its parallel market, though the traditional parity with the U.S. dollar was maintained for the official rate.) In each of these programs, the appropriateness of the level of the exchange rate was considered, and it was concluded that a feasible adjustment program could be designed without exchange rate action. All countries in these categories, except Panama, suffered severe deterioration of the terms of trade, but in other respects their situation was generally not as critical as in the countries that took exchange rate action.

For four countries with strong ties to the U.S. dollar, reversal of the real appreciation that had occurred between 1978 and 1982 was predicated largely on an expectation that the U.S. dollar would decline relative

³⁵ Or up to December 1984, where programs had not yet expired by that date.

Table 6. Selected External Sector Indicators: Countries That Did Not Take Exchange Rate Action in 1983 Programs

(Indices are based on 1978 = 100)

	Terms of Trade Index (1982)	Real Effective Exchange Rate Index (Second Quarter 1982)	Current Account Deficit in Percent of GDP (1982) ¹	Gross Official Reserves in Months of Imports (End 1982)	Import Volume Index (1982)	Export Volume Index (1982)
Central African Republic	71	108	4.8	3.4	109	120
Grenada	71	121	17.7 ²	1.2 ²	129	106
Guatemala	75	109	4.6	2.5	73	104
Haiti	75	115	3.3 ³	1.3 ³	93	121
Liberia	72	122	6.5 ²	0.2 ²	64	99
Mali	85	...	10.3	0.5	99	134
Niger	60	103	8.3	0.9	78	155
Panama	98	101	11.3	3.1	130	97
Senegal	84	89	12.4	0.1	93	128
Togo	78	101	21.7	7.3	65	129

Sources: Country authorities; and Fund staff estimates.

¹ Including official transfers.² July 1982 to June 1983.³ October 1981 to September 1982.

to other major currencies. In Haiti, where the gourde had been pegged to the U.S. dollar at an unchanged rate since 1929, financial policies were considered adequate to deal with the external imbalance. The improvement in public finances, together with a tightness of credit policies under an immediately preceding stand-by arrangement, had eased the pressures on the balance of payments and markedly reduced the discount on the gourde in the parallel market that had developed. In Guatemala, no significant relative price misalignment was believed to exist at the time the program was designed, and the external imbalance was to be tackled with a tightening of financial policies and the introduction of export incentives through fiscal measures. In Liberia and Panama, where the dollar was legal tender, changing the peg would have involved a major institutional change. In Panama, moreover, the problem was neither a deterioration of the terms of trade nor embedded inflation, so adjustment through demand management was preferable in any case.

The currencies of five African countries were pegged to the French franc in the context of monetary unions.³⁶ The maintenance by these countries of exchange systems free of restrictions on current transactions had made it possible to avoid major cost-price distortions. Real appreciation since 1978 thus had generally been small (negative in the case of Senegal).

Another country that did not take exchange rate action was Grenada, whose currency, the East Ca-

ribbean dollar, is issued by the East Caribbean Central Bank. The current account deficit and substantial real appreciation, coming at a time when the terms of trade had deteriorated severely, made a strong case for devaluation. Grenada's high rate of inflation and a large share of countries other than the United States in its trade and tourism meant that its real effective appreciation was considerably larger than those of the other members of the East Caribbean Central Bank. However, in light of the major institutional change that an adjustment of the exchange rate would have required, a program was developed that did not include initial exchange rate action. The question of a possible subsequent exchange rate action by Grenada was to be considered by the authorities in consultation with the other members of the East Caribbean Central Bank.

Countries with a History of High Inflation

At the opposite extreme with regard to exchange rate flexibility are those countries with a long experience of high inflation that protect external competitiveness through frequent quasi-automatic devaluations. In such countries, the usual political resistance to devaluation is substantially reduced, and there is little difficulty in incorporating an active exchange rate policy into the adjustment program. It is generally understood from the outset that continuing depreciation will at least offset inflation, and there is little problem in accelerating the rate slightly to produce a real depreciation.

³⁶ Mali joined the West African Monetary Union during the program period.

While the desirability of real depreciation in such cases, or at least the avoidance of real appreciation, is not in doubt, the question may be raised as to whether some degree of nominal exchange rate stability should be an important goal of exchange rate policy. Stability can be brought about through, for example, strong incomes policy in association with financial restraint, as opposed to a continued sanctioning of high rates of inflation through rapid depreciation. The relative efficiency of these quite different approaches to adjustment goes beyond exchange rate policy into the area of the overall design and implementation of adjustment programs, and is thus beyond the scope of this paper. However, there is no doubt that programs should plan for an eventual return to exchange rate stability. In fact, the 1983 programs of high inflation countries generally did plan for a gradual slowing of inflation, implying a declining rate of nominal depreciation of the currency. In practice, however, many of them did not succeed in achieving this objective.

Planned Economies

All countries use administrative action to limit the extent that market forces influence economic developments. To the degree that such administrative controls prevail, prices, production, trade, and income distribution may be more or less insulated from the effects of exchange rate changes. An important aspect of exchange rate policy is thus the extent to which changes in the exchange rate are passed through to the rest of the economy. In designing adjustment programs involving exchange rate action, such considerations always need to be kept in mind.

In this respect, there is no sharp distinction between countries formally described as having "planned economies" and others. Hungary, for example, in some respects permits the exchange rate to have more pervasive domestic effects than do many countries that are nominally market economies but that insulate key domestic producer and consumer prices from developments abroad. Other planned economies also increasingly emphasize market-related mechanisms.

It is nonetheless true that for planned economies, limits on the use of market mechanisms are often an integral part of the institutional structure, while for most other developing countries such limits tend to arise as ad hoc responses to particular developments, such as changes in income distribution, that are seen as undesirable from a social or political point of view. One important aspect of this difference is that ad hoc administrative responses tend to be biased against the development of a country's potential to benefit from

the gains from trade. The result is an increasingly inward-looking pattern of growth. On the other hand, planned economies often make deliberate efforts to expand their external sectors. However, unless decisions for such expansion are based on a proper appraisal of opportunity costs, it may not be carried out efficiently. In any event, the fact that market mechanisms are, in principle, allowed only a limited role in such economies may have some effects on the formulation of exchange rate policies.

Because no arrangements with planned economies were approved in 1983, this paper reviews the formulation of exchange rate policies in the 1982 and 1984 Fund-supported adjustment programs of Hungary and the 1981 program of Romania. In Hungary, the experience was similar to that in many of the 1983 programs reviewed above. The principal elements in the quantification of the exchange rate action were the profitability of key export industries, as well as estimates of elasticities which were used to calculate the exchange rate consistent with the external current account objectives. Developments in the real effective exchange rate index were considered, but the extensive restructuring of domestic relative prices that had taken place meant that the usefulness of the index was limited.

Romania, by contrast, did present a number of special features, although there, too, the adjustment program was developed in the context of a major price and exchange reform initiated earlier. A key element of this reform was the abolition of the "equalization" system that had previously been used to insulate the domestic prices of traded goods from developments in international prices, effectively setting a separate variable exchange rate for each commodity. This was replaced by a system of 27 exchange rates, which meant that changes in world prices would be reflected directly in the profits and losses of trading enterprises, provided they were not offset by adjustments in taxes and subsidies.

Adjustments to the exchange rate and further simplification of the system took place in the second and third years of the adjustment program, leading to a unified commercial exchange rate on July 1, 1983. The amount of adjustment was largely based on developments in the real effective exchange rate index, though interpretation of the index was complicated by the price reforms which were going forward. It was believed that the increase in the real effective exchange rate index understated the loss of competitiveness, in view of the existence of repressed inflation. The implication of the institutional reforms being undertaken by Romania was that the exchange rate changes were to be passed through to domestic prices to a significant degree. The complexity of the pricing sys-

tem, however, together with the absence of detailed commodity analyses, made it exceptionally difficult to develop and monitor policies in this key area. In addition, it was recognized that the system of planning would limit the flexibility of the export sector to respond to exchange rate adjustments.

While a full appraisal of the formulation of exchange rate policies in planned economies would go well beyond the scope of this paper, experience suggests that the special circumstances of such countries pose few conceptual difficulties. There are, however, some problems of an essentially informational character. Where a country relies on market mechanisms in achieving the desired effects of exchange rate changes,

it is possible to predict with reasonable confidence the responses of the economy, even without detailed sector-by-sector information. To the extent that planned economies themselves make use of market mechanisms, the same conclusion applies. Where decisions on prices and production are made administratively, however, it is necessary to be able to trace on a case-by-case basis the ways in which the exchange rate will enter into those decisions. This may imply a need for detailed analysis of the planning process for each industry or sector. At a more general level, a thorough understanding of the way the overall plan is formulated and executed is required to provide an adequate basis for appraising the consistency of exchange rate policies with other policies.

APPENDIX

Case Studies

Ecuador

Stand-By Arrangement

The Fund approved a one-year stand-by arrangement for Ecuador on June 1, 1983. The arrangement was for SDR 157.5 million, equivalent to 150 percent of Ecuador's then-prevailing quota in the Fund. This was Ecuador's first stand-by arrangement since 1972.

Exchange Rate Developments

Ecuador had maintained a dual exchange market since November 1971. The free market was limited to most private sector services and certain private sector capital transactions. The spread between the free market rate and the official exchange rate remained small until late 1981, when the two rates diverged by 35 percent. The free market exchange rate had depreciated to 33 sucres per US\$1 compared with the official rate of S/. 25 per US\$1. The exchange rate in the free market continued to depreciate thereafter, reaching S/. 84 per US\$1 by March 1983. In the official market the sucre was depreciated in May 1982 to S/. 33 per US\$1 and again to S/. 42 per US\$1 in March 1983 when it was announced that it would be depreciated by S/. 0.04 per US\$1 per working day until further notice. In June 1983 this rate of depreciation was increased to S/. 0.05 per US\$1 per day.

Balance of Payments Problem

The balance of payments, which had been in surplus since 1976, recorded large deficits in 1981 and 1982. The current account deficit reached US\$1.0 billion in 1981 and US\$1.2 billion in 1982. A major factor underlying this deterioration was a weakening of export

receipts from petroleum (owing to rising domestic consumption of refined products, and since 1980, to lower international prices). Other major factors were a continued high level of imports—despite an intensification of restrictions—and a sharp growth in interest payments on public sector debt. Net capital inflows declined by 25 percent in 1982, and there were major changes in the composition of the capital account. While the public sector sharply reduced its long-term foreign borrowing, there was an increase in the use of short-term credits against future oil exports. Amortization payments increased. There was a very large net outflow of private sector capital (about US\$135 million), compared with a small inflow in 1981, reflecting declining confidence on the part of both the private sector and foreign banks. By the end of 1982, gross official reserves had declined to US\$457 million, compared with US\$678 million at the end of 1981, and arrears on external payments amounted to US\$211 million. In November 1982 the Government prohibited importation of a wide range of commodities for an indefinite period.

The fact that nonpetroleum exports had either stagnated or declined for a number of years gave particular cause for concern. However, much of the impact of this decline on the balance of payments had been masked by the buoyancy of petroleum exports. The decline was at least in part attributable to the loss in Ecuador's international competitiveness during the previous decade. The real effective exchange rate index had appreciated almost continuously from 1970. The sucre appreciated sharply in real terms in 1981 as a result of the strength of the U.S. dollar (to which the sucre is linked) and as a result of a pickup in domestic inflation.

An adjustment of the exchange rate was therefore considered important for two reasons. First, it would be an immediate signal that the authorities were taking firm action to reverse the deteriorating economy and re-establish confidence. Secondly, an adjustment would serve as a means to change the structure of relative prices so that incentives in the traditional traded goods

sectors could be revived and so that reliance on import restrictions could be reduced. The amount of adjustment required was considered to be so large as to rule out a program that did not include some exchange rate action.

Determining the Amount of Exchange Rate Adjustment

The principal objective of the authorities with regard to exchange rate policy was to re-establish the long-term competitiveness of the Ecuadoran economy. On the basis of developments in the real effective exchange rate index since 1970—the last year of balance of payments equilibrium before the major changes in oil output and prices—it was judged that the 24 percent depreciation in the official market in May 1982 was not sufficient to accomplish this objective. The amount of the depreciation was eventually established as that needed to restore the real effective exchange rate to the 1970 level.

In addition to the need to restore international competitiveness, the authorities were faced with an immediate need to reduce the spread between the official and free market exchange rates. This was considered essential to reduce speculative capital outflows through underinvoicing and overinvoicing of exports and imports, and to ensure that competitiveness was not eroded further over time. Thus, another important objective of exchange rate policy was to ensure a convergence of the two exchange rates and an eventual unification at a realistic rate. Because immediate unification of the exchange rates was not considered to be feasible, unification was to be accomplished by gradually depreciating the official exchange rate, while shifting transactions from the official to the free market.

Mechanism of Exchange Rate Adjustment

The sucre was devalued in March 1983 by 21 percent to S/. 42 per US\$1 with a preannounced depreciation rate of S/. 0.04 per working day. In June the depreciation rate was adjusted to S/. 0.05 per day. Also in June, the authorities transferred to the free market 30 percent of foreign exchange proceeds from petroleum and petroleum-related exports and an equivalent value of imports. Other measures were also taken to improve competitiveness and the efficiency of resource allocation. A restrained public sector wage policy was announced. Certain domestic prices were raised with the intention of eliminating subsidies, including the

prices of petroleum derivatives and of major consumption items such as wheat and milk. Another important element of the adjustment program was a substantial reduction in the consolidated public sector deficit, from 6.8 percent of gross domestic product in 1982 to 4.2 percent in 1983, through a combination of tax measures and expenditure restraint.

Ghana

Stand-By Arrangement

The Fund approved a one-year stand-by arrangement for Ghana on August 3, 1983. The arrangement was for SDR 238.5 million, equivalent to 150 percent of Ghana's quota in the Fund. At the same time, a request was approved for a purchase of SDR 120.5 million (76 percent of quota) under the compensatory financing facility to offset a shortfall in export receipts during calendar 1982. A previous one-year stand-by arrangement for SDR 53 million (50 percent of quota) had been approved in January 1979, but became inoperative following a change of government in June 1979.

Exchange Rate Developments

From February 1973 until mid-1978, Ghana maintained the exchange rate at 1.15 cedis per US\$1. Between June and August 1978, the exchange rate was gradually moved to C 2.75 per US\$1, a cumulative devaluation of 58 percent. No further changes were made in the exchange rate until April 1983.

As part of the adjustment program, on April 21, 1983, the Ghanaian authorities introduced, for a transitional period, a system of bonuses and surcharges on the official rate of C 2.75 per US\$1. This system resulted in two rates: C 23.375 per US\$1 and C 29.975 per US\$1. The weighted average of these rates was about C 25 per US\$1, representing a depreciation of 89 percent in foreign currency terms. The relatively appreciated rate applied to about one half of total payments, including imports of essential items and capital goods, and to traditional exports, accounting for about 80 percent of total receipts.

Balance of Payments Problem

The need for exchange rate adjustment had long been apparent, but had not been undertaken because

of the perceived political consequences. As the economic situation steadily deteriorated, the resistance was finally overcome in 1983 by the systematic efforts of the Government to educate the public on the need for a major adjustment program.

Severe balance of payments difficulties demonstrated the need for a large exchange rate adjustment. The imbalances were primarily the result of expansionary financial (particularly fiscal) policies and, to a lesser extent, a deterioration in the terms of trade stemming from adverse movements in oil and cocoa prices. As prices rose sharply, particularly after 1981, a fixed official exchange rate in terms of the U.S. dollar resulted in a large and growing overvaluation of the cedi. The shortage of imports, along with efforts by the Government to contain the rise in the cost of living through price controls, led to a decline in economic activity, as well as the development of a large parallel market. Export receipts from cocoa, the major export, declined steadily, owing to reduced producer incentives and smuggling to neighboring countries. An increase in producer prices for cocoa in 1981 to counter these developments was financed through the budget, further raising the fiscal deficit and fueling inflation. Fiscal revenues were eroded. Foreign aid declined because of the growing disenchantment of donor governments with Ghana's policy performance. As a result, investment expenditures were curtailed and the country's productive base gradually became outdated. The return of about one million expatriates and persistent drought severely pressured food supplies in early 1983, resulting in a sharp price increase for food staples.

Determining the Amount of Exchange Rate Adjustment

Although the need for exchange rate adjustment was obvious, the precise amount was difficult to determine because of the limited data base and widespread distortions in the economy. The extent of the cedi's overvaluation was analyzed in the context of inter-country price comparisons, movements in real producer prices and profitability of major exports, parallel market exchange rates and the role of parallel markets in the economy, and projections of economic performance over the medium term. The implications of alternative exchange rates for the balance of payments, price level, and the government budget were analyzed. Developments in the real effective exchange rate index and the profitability of exports, particularly cocoa, also were evaluated. The adjustment of the rate to a weighted average of C 25 per US\$1 involved restoring competitiveness to the level attained after the most

recent exchange rate adjustment in 1978, and was considered to be the minimum required to achieve the program's objectives.

One of the major objectives of the exchange rate adjustment was to attract resources to the official market from the large parallel market, thereby immediately improving the recorded balance of payments and the tax base. Therefore, developments in the parallel market rate also were reviewed in determining the appropriate official exchange rate. The parallel market exchange rate, which was approximately C 80 per US\$1 at the beginning of 1983, was not considered to represent the equilibrium rate because of that market's risk premium and imperfections. However, in view of the extent of the parallel market activity and the need to divert it into official channels, a progressive reduction in the spread between the official exchange rate and the parallel exchange rate was considered appropriate.

Mechanism of Exchange Rate Adjustment

The authorities believed that the general public needed some time to understand and accept the implications of a large straightforward exchange rate adjustment. As a transitional arrangement, they adopted a multiple exchange rate based on a system of bonuses and surcharges on the official exchange rate, which resulted in two rates—C 23.375 per US\$1 and C 29.975 per US\$1—and a weighted average rate of C 25 per US\$1. The authorities intended that the real effective exchange rate index remain constant and that ultimately the two rates would be unified. To this end, the less depreciated rate was expected to be adjusted more quickly than the more depreciated rate.

Sri Lanka

Stand-By Arrangement

The Fund approved a stand-by arrangement for Sri Lanka on September 14, 1983, for the period through July 31, 1984. The arrangement was for SDR 100 million, equivalent to 56 percent of Sri Lanka's quota in the Fund.³⁷ Following the introduction of significant structural reforms in late 1977, the Fund had granted

³⁷ Purchases by Sri Lanka under the stand-by arrangement amounted to SDR 50 million. The arrangement became inoperative because understandings on policies could not be reached for the second half of the program period.

a one-year stand-by arrangement in December 1977 and an extended arrangement in January 1979, which covered the period to December 1981. Sri Lanka made all scheduled purchases under these two previous arrangements.

Exchange Rate Developments

In November 1977, a major reform of the exchange and trade system was effected involving a unification of the dual exchange rate system at a depreciated level and a liberalization of the import and payments system.³⁸ Thereafter, the exchange rate was determined by a policy of managed floating. The currency was steadily depreciated from 16.00 rupees per US\$1 in November 1977 to SL Rs 21.32 per US\$1 at the end of 1982. However, owing to relatively high domestic inflation, these exchange rate adjustments were not adequate to prevent a substantial real appreciation of the rupee. The rupee was further depreciated by 7.4 percent during the first half of 1983 and an additional 5 percent (to SL Rs 24.20 per US\$1) on July 4, 1983.

Balance of Payments Problem

Following the liberalization measures of late 1977, Sri Lanka's external position deteriorated. The deterioration was evidenced in the reversal of its current account balance,³⁹ from a surplus equivalent to 2 percent of gross domestic product in 1977⁴⁰ to a deficit equivalent to 15 percent of gross domestic product in 1982. This weakening stemmed from several factors. First, there was a sharp rise in the volume of imports reflecting both an increase in public investment expenditures and the effects on private imports of import liberalization and expansionary financial policies. Second, the terms of trade deteriorated by about 25 percent between 1977 and 1982, owing mainly to the oil price rises during 1979–80 and a decline in tea prices from a peak level reached in 1977. Third, there was a continued stagnation in the volume of traditional ex-

ports (tea, rubber, and coconuts), which was due to weak management of state-owned estates and inadequate producer margins. Inadequate margins had contributed to a low level of investment in that sector and also to managerial problems, which stemmed from the low salary and wage structure that the low margins implied. Fourth, export diversification had not succeeded because high import tariffs protected inefficient manufacturing units, tax incentives favored sectors other than manufacturing, and exchange rate policy had eroded competitiveness.

The growing current account deficits were financed partly by increased concessional aid and, particularly since 1980, by substantial commercial borrowing. However, despite the deterioration in its external position, Sri Lanka continued to maintain an exchange system virtually free of restrictions on current transactions.⁴¹ Nevertheless, it was clear that the current account deficit recorded in 1982 (15 percent of gross domestic product) was not sustainable in the medium term because of its debt-servicing implications.

Corrective measures began to be implemented early in 1983. A 7.4 percent depreciation of the rupee took place during the first half of 1983. Administered prices were raised, and new tax measures equivalent to 2.5 percent of gross domestic product were introduced in the 1983 budget.⁴² The growth of public capital expenditure was reduced. The balance of payments was expected to improve in 1983 because of a 12 percent reduction in oil prices; a strong recovery (22 percent on average) in export prices for tea, rubber, and coconuts; and projected substantial increases in emigrants' remittances and aid flows. At the same time, however, a severe drought was beginning to affect the volume of major export crops and private import demand had picked up following the return of business confidence after the presidential and parliamentary elections.

Given the magnitude of the imbalances, the potential was limited for financial policies alone to produce a sustainable external position. Furthermore, it was not possible to reduce significantly the planned public sector investment expenditure (which had a high import content) without disrupting the largely concessionally financed investment program. Reliance on demand management to reduce nongovernment imports would be costly in terms of reduced economic activity. Moreover, the domestic rate of inflation was projected at over 10 percent on the basis of cost-push factors, and exclusive reliance on demand restraint policies to

³⁸ The unification of the exchange rate system at the initial level of 16.00 rupees per US\$1 represented a devaluation of 46 percent in terms of the official rate in effect until then and 11 percent in terms of the parallel rate. However, the effects of the large devaluation of the official rate on the prices of traditional exports and essential imports, to which it applied, were initially almost entirely neutralized through, respectively, higher export taxes and import subsidies.

³⁹ Excluding official transfers.

⁴⁰ It should be noted that the favorable current account position in 1977 was associated with a low level of economic activity before the liberalization measures and unusually favorable external terms of trade.

⁴¹ With the exception of limitations on travel allowances.

⁴² These included increased import duty rates by an average of about 3 percentage points and higher general sales and turnover tax rates.

improve competitiveness would, in view of the low inflation rate projected in Sri Lanka's trading partners, involve large costs of adjustment. At the same time, exchange rate action would facilitate measures to increase the efficiency of the state-owned estates and reduce effective protection.

Determining the Amount of Exchange Rate Adjustment

In arriving at the amount of exchange rate depreciation, a wide variety of indicators of competitiveness was evaluated. In addition to an assessment of the profitability of main export products, the competitiveness of the export sector was evaluated on the basis of two types of real effective exchange rate indices. The first type was based on bilateral export weights (1979–81 data). The second type was based on weights which reflected the shares in foreign markets of third countries competing with Sri Lanka in nine major products: tea, rubber, coconuts, garments, fuel, gems, shellfish, fruit juices, and ceramics. Indices of competitiveness were estimated for each product, and an overall index for the export sector was obtained as a weighted average of the nine commodity indices. The import-substituting sector was evaluated on the basis of a real effective exchange rate based on bilateral import weights. Finally, the competitiveness of the whole external sector was measured by a real effective exchange rate index based on trade (import plus export) weights. The nominal effective exchange rate indices were in each case deflated by relative consumer and wholesale prices.

Mechanism of Exchange Rate Adjustment

The authorities did not wish to achieve the desired improvement in competitiveness by exchange rate action alone. Instead, they adopted compensating measures in other areas, along with a smaller initial exchange rate adjustment and a flexible exchange rate policy aimed at maintaining external competitiveness. A 5 percent devaluation was effected on July 4, 1983, bringing the exchange rate to SL Rs 24.2 per US\$1. Import tariffs were increased, mainly through application of import duties to previously exempt items. As a result, the average import duty increased by about 3 percentage points. This was expected to favorably affect the balance of payments and the budget, although at some cost in terms of production efficiency. Export duties on tea were lowered. It was planned that this decrease, together with a projected increase in the prices of traditional exports, would improve substantially the profitability of these exports.

A number of other features of the program directly affected external competitiveness. Among the measures taken to reduce the overall budget deficit by the equivalent of about 2 percent of gross domestic product, for example, was a six-month freeze on the monthly wage indexation plan for public sector employees and a shift to semiannual adjustments after September 1983. In addition, it was anticipated that public sector estates producing tea, rubber, and coconuts would undertake new investment and introduce performance-related incentives for managers and workers from the beginning of 1984.

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