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PART I
Introduction

Chapter 1

The NBER Project

There have been few policy questions in development economics that have generated as heated a debate as the role of the exchange rate and the trade regime in growth. In this volume an attempt is made to survey the issues in light of careful in-depth analyses of ten developing countries. These earlier studies were undertaken as part of the NBER project on Foreign Trade Regimes and Economic Development. By confronting the issues with available empirical evidence, it is hoped that the area of dispute over appropriate exchange rate and trade regime policies can be substantially reduced.

I. THE FOCAL ISSUES

Developed and developing countries alike have difficulties managing their exchange rates and their trade and payments regimes. There is a considerable body of knowledge that pertains equally well to both groups of countries, but several factors suggest that there are additional dimensions to the analysis of those issues in most developing countries. First, most developing countries have become enmeshed, for varying lengths of time, in trade and payments regimes of considerable complexity. Sometimes these regimes feature multiple exchange rate systems,[1] and sometimes they rely on quantitative restrictions on international transactions. The exchange rate under these complex systems plays a different role from the one it would if individuals were free to carry out their transactions at prevailing prices. Second, devaluations in developing countries have typically been of much greater magnitude than those of the developed countries. This suggests that underlying disequilibria have generally

been more severe in the former. In most developed countries, trade and payments regimes have generally been less complex, and reliance upon quantitative restriction for purposes of managing the balance of payments was gradually reduced, if not eliminated, in the 1950s and early 1960s. Third, there is reason to believe that, because developing countries tend to rely more on quantitative restrictions, departures from unified incentives have caused considerably greater variance in distortions. Fourth, foreign exchange earnings have been regarded as a central concern for purposes of economic growth, so that policy decisions affecting the foreign trade and payments sector have assumed roles of great importance in efforts to achieve domestic economic goals, particularly that of economic development.

These differences between developed and developing countries suggest three questions: (1) What is the "anatomy" of exchange control regimes, and how do the complex quantitative and price inteventions interact with each other and with domestic economic policies to affect relevant variables? (2) How do the initial conditions associated with the anatomy of the exchange control regime affect the economic impact of devaluation, and how—if at all—does analysis of devaluation under exchange control differ from that under convertibility? (3) How does the choice of alternative trade and payments policies affect the prospects for economic growth?

These questions were basic to the entire NBER project. They were the focal point for the individual country studies, and they are the central issues in the two final volumes synthesizing and analyzing the results of the country studies. The volume by Jagdish Bhagwati is addressed to the first question; this volume is addressed to the second question; both volumes, naturally, deal with the third. Here, concern with the third issue is centered upon the effects of "successful devaluation" on growth.[2]

Devaluation and Its Aftermath

Economic theory suggests that increasing the price of foreign exchange, and thus the price of tradable goods relative to domestic goods, will shift resources toward the production of tradable goods and increase the supply of exportables and import substitutes. At the same time, consumers will substitute home goods—nontradables—for traded goods and reduce domestic demand for both exports and imports. To be sure, appropriate macroeconomic policy would have to accompany the increase in price of foreign exchange or else domestic inflation could result in a return to predevaluation relative prices of tradables and nontradables. Macroeconomic considertions are of great importance in the analysis of exchange rate changes and their consequences, and these are dealt with in Chapter 7.

In most developing countries the distinguishing characteristic of devaluation—and, more generally, of the role of the exchange rate—is that exchange control, including quantitative restrictions (QRs), prevails. Typically, the predevaluation situation is one in which the volume and composition of imports are determined by import licensing, and the actual value of imports does not reflect the outcome of market forces. It often happens, too, that a plethora of duties, taxes, and surcharges is imposed on purchases of foreign exchange, while subsidies in a variety of forms are extended to some categories of exports and other sources of foreign exchange. Some of these quantitative restrictions, taxes, and subsidies are altered with devaluation.

The nature of the exchange control system is bound to affect the observed consequences of devaluation; changes in the quantitative restrictions, taxes, and subsidies that accompany an exchange rate change will also influence its aftermath. The first major task of this volume is to provide a framework within which these changes can be analyzed and to use that framework in explaining the experience of the ten countries included in the NBER project. It will be seen that one must have several measures of exchange rates. When a variety of duties and subsidies is applied to various categories of transactions, one can no longer meaningfully speak simply of "the" exchange rate. It then becomes necessary to distinguish between gross, net, and real devaluations. The first concept corresponds to the change in the official exchange rate; the second to the changes in the actual prices of foreign exchange confronting economic agents; and the third takes into account the macroeconomic environment in which the exchange rate operates.

Likewise, the implications of the licensing system, and the way it operates during the predevaluation period, can have strong effects on the aftermath of devaluation. When the foreign exchange value of licenses issued continues unchanged, there is no reason to expect devaluation to reduce the quantity of imports unless the increase in price of foreign exchange exceeds the implicit or explicit value of a license for a dollar's worth of imports. When the value of import licenses issued is increased at the time of devaluation, it is quite possible that imports will actually increase. Similar considerations apply to other categories of international transactions, as will be seen in later chapters.

In this regard another important question arises—that is, To what extent does it matter whether the policy instruments used to achieve a particular objective are quantitative restrictions or price interventions? One can, after all, imagine a devaluation accompanied by the imposition of appropriate tariffs and the removal of quantitative restrictions so that all that was achieved by devaluation was pure substitution of some instruments for others. This question will be of major concern throughout this volume.

The choice of policy measures to accompany a devaluation at least partially determines the effect the devaluation will have on the level of economic activity; there are better and worse policy packages from the standpoint of

avoiding adverse effects. Economic theory and the experience of the ten countries provide some evidence on the macroeconomic impact of devaluation and the likely range of responses.

Will devaluation be followed by a period of sustained growth, with less reliance on quantitative restrictions on foreign trade? This depends on whether the level of export earnings increases and, if so, on how much it increases. If, instead, foreign exchange difficulties ensue, quantitative restrictions could be quickly reimposed or increased in severity in order to control the balance of payments. Whether exchange rate changes themselves affect the level of export earnings in developing countries has been the subject of considerable controversy in the past.[3] "Elasticity pessimism" has frequently been voiced. It has been alleged either that foreign demand for a country's exports is price-inelastic,[4] or that domestic supply elasticities are sufficiently low so that additional exports will not be forthcomiong even at a higher price of foreign exchange. Other lines of reasoning have also been used to support the view that foreign exchange earnings are insensitive to exchange rate changes. One such argument has it that domestic inflation is triggered by a devaluation, thereby precluding any change in the real price of foreign exchange.

These issues are of great importance and are examined closely in the chapters that follow. Analysis of the changes in price and quantitative measures that accompany devaluation makes possible the isolation of the variables that should influence the export response. The impact of these variables is then tested for the ten countries included in the NBER project.

Relationship to Economic Growth

Few economic phenomena in developing countries can be viewed without reference to their influence on the rate of economic growth. Economic development is such an overriding objective of most of these countries that virtually all economic events must be evaluated in terms of their impact on the growth rate. Thus, an important criterion in choosing a trade regime is its influence on economic growth.

In the development literature, emphasis has been given to foreign exchange availability as a potential constraint on the growth rate. Many models, both for planning and for explaining the development process, have made a "foreign exchange bottleneck" central to the determination of the growth rate.[5] These "two-gap" models focus on the role of foreign exchange in complementing domestic savings and in providing imported capital goods needed to support domestic investment. These models imply that foreign aid is more valuable than export earnings because it does not require domestic resources. They also imply that if greater export earnings are associated with one set of policies than with another, the effect on economic growth will be *via* increased

availability of foreign exchange. Moreover, in choosing between export expansion and import substitution to break a foreign exchange bottleneck, the two-gap models imply that a dollar of import substitution and a dollar of export promotion are of equal value.

That conclusion, of course, accords with economic theory, which suggests that, in general, resources should be devoted to export promotion and import substitution until the marginal amount of foreign exchange earned or saved is equal in both activities.[6] The practical difficulty with that prescription, from the viewpoint of policy guidance, is that it provides no hint as to the relative emphasis upon the two alternatives that would achieve the optimum mix.

In contrast to the two-gap models, others have focused on different aspects of the trade-growth relationship. Some have viewed the trade-growth link as lying in the resource misallocation that results from wide variation in the level of protection accorded to different industries. Others—bearing in mind the experiences of Japan, South Korea, Taiwan, Hong Kong, and Singapore—have argued that there is something inherently "better" about export promotion than about import substitution. Still others have advocated an import-substitution strategy for growth and have defended the use of QRs as a means of fostering import substitution. These arguments and the empirical evidence will be subjected to careful examination in the final part of this volume.

The issue of the relative merits of export promotion and import substitution is closely linked to analysis of alternative trade regimes and their growth effects. It is possible, at least in principle, to have a regime strongly oriented toward import substitution using either quantitative restrictions or price interventions. It does not appear to be possible, however, to have an export-oriented growth strategy and a restrictionist trade regime. Several alternative hypotheses need investigation: (1) quantitative restrictions are inherently no different from tariffs, but QR regimes founder because of the bias such regimes inevitably have toward import substitution and against exports; (2) QR regimes lead to much greater deviations from optimal resource allocation because of the inevitable variance in protective equivalents under quantitative controls; or (3) QRs, *per se*, are no different from tariff-and-subsidy interventions, but the policies and instruments used in their administration have had adverse side effects that could have been avoided with the appropriate use of available instruments.

These hypotheses are sufficiently complex so that no definitive tests are possible based on an analysis of the experience of ten countries. Nonetheless, data from those countries provide a basis for examining the link between the rate of growth of export earnings and the rate of growth of real output. In the final part of this volume it will be seen that the experiences of the ten countries also suggest some considerations that are of importance in determining the relative emphasis to be given to import substitution and to export promotion.

II. THE COUNTRY STUDIES

The NBER project progressed in three stages: (1) an analytical framework was prepared, detailing a research strategy to be followed in investigating each country's experience; (2) individual country studies were undertaken; and (3) findings of the country studies were examined to see to what extent conclusions of general validity could be drawn. The third stage is the subject of this volume and of Jagdish Bhagwati's work.

The Analytical Framework

In order that the individual country studies could provide evidence on a comparable basis, an analytical framework was drawn up.[7] It outlined the major questions relevant to exchange control regimes, devaluation episodes and their aftermath, and the relationship between alternative regimes and development; it defined the concepts that could be employed and quantified on a common basis; and it delineated the phases to be distinguished in tracing each country's foreign exchange experience.[8]

The analytical framework, drawn up by Bhagwati and Krueger, was intensively discussed by all project participants. The framework included a statement of the basic theory underlying the roles of the exchange rate and the payments regime in the growth process, and it set forth a number of hypotheses. Thus the framework was a common starting point for the construction of models for the individual country studies. It was by no means intended, or used, as an exhaustive research outline. Indeed, one of the major premises of the project was that the structural differences between developing countries must be taken fully into account if adequate analysis of individual countries and—at the next stage—of features common to several countries was to be possible.

The Individual Country Research

The analytical framework was a necessary step for the individual country studies that followed. For each of the ten countries—Brazil, Chile, Colombia, Egypt, Ghana, India, Israel, South Korea, Philippines, and Turkey—the researcher was asked to analyze experience with its payments regime, investigating the detailed effects of exchange control regimes on resource allocation, income distribution, and growth. Each study represents a significant contribution to understanding the individual countries and to developing methods of analyzing the relationship between trade regimes and growth.

The authors of the country studies agreed to the major questions to be investigated, and common concepts and definitions were developed. Each author had latitude to analyze the experience of the country studied in the way deemed most appropriate. This was done for a variety of reasons: (1) the countries included in the project were selected partly because of their wide diversity of experience, and it was clear that the same model would not fit in all cases; (2) each author was already familiar with his subject country, and latitude enabled maximum advantage to be taken of the large stock of human capital engaged in the project; (3) in the absence of widespread agreement as to the most appropriate class of foreign trade models, it seemed better to encourage each author to use the model that person considered most appropriate, thus contributing to the development of a more generally accepted class of models.

Both the analytical framework and later communication with individual authors were used in an attempt to provide data on a comparable basis across countries, and—as tables in later chapters will indicate—it was possible to obtain a surprisingly large body of data on a reasonably comparable basis. This volume, which is focused on the general conclusions emerging from the individual studies, cannot capture the full variety and richness of each country's experience. The reader is urged to explore the individual volumes.

III. THE PLAN OF THE WORK

There are four parts to this volume. The first part is designed to provide the reader with background on the countries and on systems of exchange control. Part II analyzes devaluation and other policies undertaken from an initial situation of exchange control in light of the ten countries' experience. Part III is devoted to an analysis of the effects of those policies, including an examination of export performance and its relationship to the trade and payments regime, growth strategy, and growth performance. Part IV then addresses the basic questions pertaining to the effects of successful devaluation and export performance on economic growth.

In addition to this chapter, Part I has two others. Chapter 2 gives a brief synopsis of the experience of each of the countries with respect to their economic growth and their trade and payments regimes. The chapter includes tables pertaining to per capita income, real growth rates, composition of GNP by sector of origin and expenditure category, export composition and growth, and inflation rates. These data may be used for quick reference when more specific aspects of the countries' experience are considered in later chapters. Chapter 2 also introduces the "phases"—a device for categorizing trade and payments regimes—and the path each country has taken among the phases over time.

Chapter 3 covers the key concepts and conclusions about the anatomy of exchange control as they relate to the analysis of devaluation and liberalization. It does not summarize Bhagwati's volume, but rather focuses on certain relevant aspects of his findings about exchange control that are important for analyses of devaluation.

Part II is concerned with each country's devaluation experiences and with the appropriate framework for their analysis. Among other tasks, each country author was asked to examine in depth at least one episode of devaluation in the particular country. Details were to be provided of the situation prior to devaluation and of changes both in the trade and payments regime and in other policy instruments made at the time of devaluation, and the outcome of the devaluation was to be analyzed; many country authors were able to provide an account of more than one such episode. Part II generalizes this evidence in order to discover the considerations relevant in undertaking a devaluation and in attempting to alter the nature of the trade and payments regime.

The first chapter of Part II, Chapter 4, provides a more detailed statement of the basic issues involved in analyzing devaluation under QRs. Essentially there are three aspects of the trade and payments regime that are closely interrelated, and changes in all three must be analyzed carefully. The first aspect, of course, is the exchange rate itself. Exchange control regimes are usually accompanied by multiple price interventions, and the relevant measures of exchange rate changes refer to the actual prices confronting those engaging in international transactions. The second aspect pertains to the quantitative restrictions in force at the time of devaluation, and the ways in which those aspects of the payments regime are altered with devaluation. It is at this juncture that knowledge of the prior nature of the QR regime can be of considerable importance, because the precise nature of the changes in the regime can have important effects on resource allocation, incentives, and income distribution. The final aspect is the extent to which the "bias" of the regime is altered. Bias is defined as the extent to which the relative incentives for domestic production of exportables and of import substitutes are distorted away from those that would prevail under optimal resource allocation.[9] Changes in bias are the result both of exchange rate changes and of changes in quantitative restrictions. It is the altered bias of the regime resulting from devaluation, together with changes in the variation in incentives among commodity categories, that can lead to the longer-run growth effects of devaluation.

These aspects of devaluation and policy change are the subject of Chapters 5 and 6. In Chapter 5 the exchange rate aspects of devaluation episodes are considered, and an analysis of actual changes in the ten countries is presented. In Chapter 6 the changes in quantitative restrictions accompanying devaluations are analyzed in the context of a shift from relying on QRs to using price interventions.

No devaluation will succeed if domestic inflation—whatever its source—is such that the "real" exchange rate rapidly reverts to its predevaluation level. For that reason one cannot simply examine exchange rate changes and alterations in QRs; domestic macroeconomic policy measures undertaken during and after devaluation must also be considered. The monetary and macroeconomic aspects of devaluation episodes are the subject of Chapter 7.

Part III contains an analysis of the effects of the policy changes. Chapter 8 reviews the available evidence on behavior of the economy and of the balance of payments and its components in the short-run period after devaluation. For each country, changes in the level of economic activity following devaluation are related to the characteristics of the different devaluation "packages" that were undertaken. Chapter 9 treats the longer-term effects of devaluation; particular emphasis is given to the response of exports to changes in the real exchange rate. Chapter 10 is addressed to the question, What factors were significant in influencing the outcome of devaluations? In particular, some episodes, such as that of South Korea in 1964 and of Brazil during 1964 to 1968, have resulted in rapid export growth, sustained reliance on price interventions, and reduced reliance on QRs; others, such as that of India in 1966, have not resulted in significant long-term changes in the foreign trade and payments regime. Some generalizations emerge from analyzing the experience of the ten countries, and these are reported in Chapter 10.

In Part IV the relationship between the nature of the trade and payments regime, the growth of foreign exchange earnings, and the growth of real GNP are examined. There are two central questions: (1) To what extent did the growth performance of various countries alter with changes in their trade and payments regimes? (2) To what extent is differential growth performance associated with reliance upon pricing, as contrasted with quantitative interventions, and to what extent is the differential associated with the promotion of exports rather than import substitutes? The first question is considered in Chapter 11, where the available empirical evidence from all ten countries is examined; Chapter 12 addresses the second issue. Assessment of the relative importance of the two aspects is exceedingly difficult because experience with the alternatives is so limited. Essentially, judgment must rest on evaluation of the experiences of those few countries where changes in regimes have been significant and have lasted for a period of at least half a decade—Israel, South Korea, Brazil, and, to a lesser extent, Colombia.

NOTES

1. For a description of the experience with multiple exchange rates, see Margaret G. de Vries, "Multiple Exchange Rates: Expectations and Experiences," *IMF Staff Papers* 12 (1965): 282-313, and also her "Fund Members' Adherence to the Par Value Regime: Empirical Evidence," *IMF Staff Papers* 13 (1966): 504-30.

2. Although the Bhagwati volume and this one focus on different aspects, an effort has been made to make each volume self-contained even at the risk of some overlap between the two.

3. See, for example, Barend de Vries, *Export Experience of Developing Countries*, World Bank Staff Paper Number Three (Baltimore: Johns Hopkins Press, 1967). Somewhat more positive results are in Avinash Bhagwati and Yusuke Onitsuka, "Export-Import Responses to Devaluation: Experience of the Nonindustrial Countries in the 1960s," *IMF Staff Papers* 21 (1974): 414-62.

4. Some assert that foreign demand is price-inelastic for *all* developing countries taken together. That is not an argument that should affect the analysis of devaluation for a single developing country.

5. See Hollis Chenery and Michael Bruno, "Development Alternatives in an Open Economy: The Case of Israel," *Economic Journal* 72 (March 1962): 79-103; and Hollis Chenery and Alan Strout, "Foreign Assistance and Economic Development," *American Economic Review* 56 (September 1966): 679-733.

6. If foreign demand for a particular export were less than perfectly elastic, the prescription would be the same; but it would be the marginal revenue from exporting an additional unit, not the price of the export, that would be considered in comparing the alternatives. Naturally, if the country had monopoly power in importing a particular commodity, the same adjustment would need to be made.

7. Available from NBER.

8. For the definitions and concepts and the delineations of phases, see Appendix A.

9. For a rigorous definition, see Chapter 6.