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EXCHANGE CONTROL, LIBERALIZATION AND ECONOMIC DEVELOPMENT

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During the second half of 1972 drafts of some of the country studies emerged in sufficiently full form to permit detailed review and lay the basis for final revision by the authors. One study, that by Professor Krueger on Turkey, was fully revised after detailed comment by other members of the group and forwarded to the publisher shortly before the end of the year. Several other studies are now nearing that point, and most of the remainder have been circulated and reviewed in partial draft.

Completion of the Turkish study in form for transmittal to the publisher also required completion of certain introductory matter intended to be common to all of the country studies. Copies of these materials are attached, providing as they do a concise statement of the aims and methods of the study in the Co-Directors' Foreword together with a definition of concepts employed throughout the project and a delineation of the phases distinguished in tracing the history of exchange control regimes in the countries studied.

Progress made on the country studies permitted further planning of the overall synthesis volume and also a more substantive statement by the Co-Directors -- a kind of miniature preview of the ultimate synthesis -- in the form of a paper

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by Bhagwati and Krueger presented on December 30 at the meeting of the American Economic Association in Toronto. A copy of this paper is attached.

The meeting in Toronto provided an opportunity for the Co-Directors and myself to review the status and prospective schedules of the various studies and to plan the contents of a further memorandum to country authors urging stricter adherence to deadlines and providing guidance for the preparation of final drafts. Our expectation is that the next full drafts, most of which will already have been reviewed in whole or in part, will be received during the first quarter of 1973 on Chile, Ghana, Egypt, India, and South Korea, and during the second quarter on the remainder; i.e., the Philippines, Colombia, Israel and Brazil. One or two months more will be required in each case for further review by the Co-Directors and others and final revision by the authors.

Progress by the Co-Directors in drafting their overall synthesis is, of course, heavily dependent on completion of the country studies -- a point being strongly emphasized to the authors of these studies. But the Co-Directors regard it as a realistic expectation to have a fairly full draft of the synthesis by the early part of August and a revised and complete draft for circulation to other members of the group by October 1. Our plan is then to convene a final working party of the group as a whole around the end of October for a thorough discussion of the findings. The synthesis should then be ready in final form by the end of the year.

A good deal of attention has also been devoted during the last half-year to the planning of two regional conferences -- one in Latin America and one in the Far East for the purpose of examining the studies carried out under the project and evaluating their implications for economic policy. The idea of such a conference in Latin America in cooperation with the Economic Commission for Latin America has been explored in correspondence and in personal discussion with the Executive Secretary of that organization and has been enthusiastically received. We shall now develop further the plan for that meeting and look for a suitable co-sponsor for one in the Far East.

Hal B. Lary
Vice President-Research

csd-2783

CO-DIRECTORS' FOREWORD

This volume is one of a series resulting from the research project on Exchange Control, Liberalization, and Economic Development sponsored by the National Bureau of Economic Research. Underlying the project was the belief by all participants that the phenomena of exchange control and liberalization in less developed countries require careful and detailed analysis within a sound theoretical framework, and that the effects of individual policies and restrictions cannot be analyzed without consideration of both the nature of their administration and the economic environment within which they are adopted as determined by the domestic economic policy and structure of the particular country.

The research has thus had three aspects: (1) development of an Analytical Framework for handling exchange control and liberalization; (2) within that framework, research on individual countries undertaken independently by senior scholars; and (3) analysis of the results of these independent efforts with a view to identifying those empirical generalizations that appear to emerge from the experience of the countries studied.

The Analytical Framework developed in the first stage was extensively commented upon by those responsible for the research on individual countries, and was then revised to the

satisfaction of all participants. That framework, serving as the common basis upon which the country studies were undertaken, is substantively incorporated in the volume authored by us reporting on the third aspect of the research, Exchange Control, Liberalization, and Economic Development: Experience and Analysis.

The Analytical Framework pinpointed three principal areas of research which all participants undertook to analyze for their own countries. Subject to a common focus on these three areas, each participant enjoyed maximum latitude to develop the analysis of his country's experience in the way he deemed appropriate. Comparison of the country volumes will indicate that this freedom was indeed utilized, and we believe that it has paid handsome dividends. The three areas singled out for in-depth analysis in the country studies are:

(1) The Anatomy of Exchange Control: The economic efficiency and distributional implications of alternative methods of exchange control in each country were to be examined and analyzed. Every method of exchange control differs analytically in its effects from every other. In each country study care has been taken to bring out the implications of the particular methods of control used. We consider it to be one of the major results of the project that these effects have been brought out systematically and clearly in analysis of the individual countries' experience.

(2) The Liberalization Episode: Another major area for research was to be a detailed analysis of attempts to liberalize the payments regime. In the Analytical Framework devaluation and liberalization were carefully distinguished, and concepts for quantifying the extent of devaluation and of liberalization were developed. It was hoped that careful analysis of individual devaluation and liberalization attempts, both successful and unsuccessful, would permit identification of the political and economic ingredients of an effective effort in that direction.

(3) Growth Relationships: Finally, the relationship of the exchange control regime to growth via static-efficiency and other factors was to be investigated. In this regard, the possible effects on savings, investment allocation, research and development, and entrepreneurship were to be highlighted.

In addition to identifying the three principal areas to be investigated, the Analytical Framework provided a common set of concepts to be used in the studies and distinguished various phases regarded as useful in tracing the experience of the individual countries and in assuring comparability of the analyses. The concepts are defined and the phases delineated in statements immediately following this foreword.

The country studies undertaken within this project and their authors are as follows:

Brazil	Albert Fishlow, University of California, Berkeley
Chile	Jere Behrman, University of Pennsylvania
Colombia	Carlos Diaz-Alejandro, Yale University
Egypt	Bent Hansen, University of California, Berkeley, and Karim Nashashibi, United Nations Secretariat
Ghana	Clark Leith, University of Western Ontario N.
India	Jagdish, Bhagwati, Massachusetts Institute of Technology, and T. N. Srinivasan, Indian Statistical Institute
Israel	Michael Michaely, The Hebrew University of Jerusalem
Philippines	Robert E. Baldwin, University of Wisconsin Jr.,
South Korea	Charles R. Frank, Princeton University and The Brookings Institution, Kwang Suk Kim, Ministry of National Construction, Republic of Korea, and Larry E. Westphal, Northwestern University
Turkey	Anne O. Krueger, University of Minnesota

The principal results of the different country studies are brought together in our overall synthesis volume. Each of the country studies, however, has been made self-contained, so that the readers interested in only certain of these studies will not be handicapped.

In undertaking this project and bringing it to successful completion, the authors of the individual country studies have contributed substantially to the progress of the whole endeavor, over and above their individual research. Each has commented upon the research findings of other participants,

and has made numerous suggestions which have improved the overall design and execution of the project. The country authors who have collaborated with us constitute an exceptionally able group of development economists, and we wish to thank all of them for their cooperation and participation in the project.

We must also thank the National Bureau of Economic Research for its sponsorship of the project and its assistance with many of the arrangements necessary in an undertaking of this magnitude. Hal B. Lary, Vice President-Research, has most energetically and efficiently provided both intellectual and administrative input into the project over a three-year period. We would also like to express our gratitude to the Agency for International Development for having financed the National Bureau in undertaking this project. Michael Roemer and Constantine Michalopoulos particularly deserve our sincere thanks.

Jagdish N. Bhagwati
Massachusetts Institute of Technology

Anne O. Krueger
University of Minnesota

Definition of Concepts Used in the Project

Exchange Rates

1. Nominal Exchange Rate: The official parity for a transaction. For countries maintaining a single exchange rate registered with the International Monetary Fund, the nominal exchange rate is the registered rate.
2. Effective Exchange Rate (EER): The number of units of local currency actually paid or received for a one-dollar international transaction. Surcharges, tariffs, the implicit interest foregone on guarantee deposits, and any other charges against purchases of goods and services abroad are included, as are rebates, the value of import replenishment rights, and other incentives to earn foreign exchange for sales of goods and services abroad.
3. Price-Level-Deflated Nominal Exchange Rate: The nominal exchange rate deflated in relation to some base period by the price level index of the country.
4. Price-Level-Deflated EER (PLD EER): The EER deflated by the price level index of the country in question.
5. Purchasing-Power-Parity Adjusted Exchange Rate: The relevant (nominal or effective) exchange rate multiplied by the ratio of the foreign price level to the domestic price level.

Devaluation

1. Gross Devaluation: The change in the parity registered with the IMF (or, synonymously in most cases, de jure devaluation).
2. Net Devaluation: The weighted average of changes in EERs by classes of transactions (or, synonymously in most cases, de facto devaluation).
3. Real Gross Devaluation: The gross devaluation adjusted for the increase in the domestic price level over the relevant period.
4. Real Net Devaluation: The net devaluation similarly adjusted.

Protection Concepts

1. Explicit Tariff: The amount of tariff charged against the import of a good as a percent of the import price (in local currency at the nominal exchange rate) of the good.
2. Implicit Tariff (or, synonymously, tariff equivalent): The ratio of the domestic price (net of normal distribution costs) minus the c.i.f. import price to the c.i.f. import price in local currency.
3. Premium: The windfall profit accruing to the recipient of an import license per dollar of imports. It is the difference between the domestic selling price (net of normal distribution costs) and the landed cost of the

item (including tariffs and other charges). The premium is thus the difference between the implicit and the explicit tariff (including other charges) times the nominal exchange rate.

4. Nominal Tariff: The tariff--either explicit or, implicit, as specified--on a commodity.
5. Effective Tariff: The explicit or implicit tariff on value added as distinct from the nominal tariff on a commodity.
6. Domestic Resource Cost: The value of domestic resources (evaluated at "shadow" or opportunity cost prices) employed in earning or saving a dollar of foreign exchange (in the value-added sense) when producing a good domestically.

Delineation of Phases Used in Tracing
the Evolution of Exchange Control Regimes

To achieve comparability of analysis among different countries, each author of a country study was asked to identify the chronological development of his country's payments regime through the following phases. There was no presumption that a country would necessarily pass through all the phases in chronological sequence. Detailed description of the phases will be found in Bhagwati and Krueger, Exchange Control, Liberalization and Economic Development: Experience and Analysis.

Phase I: During this period, quantitative restrictions on international transactions are imposed and then intensified. They generally are initiated in response to an unsustainable payments deficit and then, for a period, are intensified. During the period when reliance upon quantitative restrictions as a means of controlling the balance of payments is increasing, the country is said to be in Phase I.

Phase II: During this phase, quantitative restrictions are still intense, but various price measures are taken to offset some of the undesired results of the system. Heightened tariffs, surcharges on imports, rebates for exports, special tourist exchange rates, and other price interventions are used in this phase, but primary reliance is placed on quantitative restrictions.

Phase III: This phase is characterized by an attempt to systematize the changes which take place during Phase II. It generally starts with a formal exchange-rate change and may be accompanied by removal of some of the surcharges, etc., imposed during Phase II and reduced reliance upon quantitative restrictions. Phase III may be little more than a tidying-up operation (in which case the likelihood is that the country will re-enter Phase II), or it may signal the beginning of the removal of reliance upon quantitative restrictions.

Phase IV: If the changes in Phase III result in adjustments within the country so that liberalization can continue, the country is said to enter Phase IV. The necessary adjustments generally include increased foreign exchange earnings and gradual relaxation of quantitative restrictions. The latter relaxation may take the form of changes in the nature of quantitative restrictions or of increased foreign exchange allocations, and thus reduced premia, under the same administrative system.

Phase V: This is a period during which an exchange regime is fully liberalized. There is full convertibility on current account, and quantitative restrictions are not employed as a means of regulating the ex-ante balance of payments.

(Paper for presentation at the American Economic
Association, Toronto, December 30, 1972)

Exchange Control, Liberalization, and Economic Development

Jagdish N. Bhagwati and Anne O. Krueger

For the past three years, the National Bureau of Economic Research has been sponsoring a research project on Exchange Control, Liberalization, and Economic Development. In this project, a number of country studies have been undertaken focusing upon the quantification and analysis of individual developing countries' experiences with exchange control regimes and attempts at liberalizing those regimes, focusing equally on the interaction between the country's trade and payments regime and its economic development.

The countries studied have included Brazil (A. Fishlow), Chile (J. Behrman), Colombia (C. Diaz-Alejandro), Egypt (Bent Hansen), Ghana (C. Leith), India (J. Bhagwati and T. N. Srinivasan), Israel (M. Michaely), South Korea (C. Frank, Jr.), the Philippines (R. Baldwin), and Turkey (A. Krueger). Each study has been undertaken within an analytical framework devised by us and agreed upon in advance by all participants. These studies are now completed or nearly so, and they are to be published by the National Bureau of Economic Research through 1973 and 1974. They should be of interest to students of the individual countries as well as to those concerned with trade and development issues more generally. When all the studies are final, we shall have a great deal of material for analysis on a comparable basis of different countries' experiences.

The final stage of the NBER project consists of our attempt to synthesize the results of the individual studies in an overall volume. This paper represents a preliminary report on some of these results. Space limitations, of course, preclude anything more.

I. An Overview

For each country covered by the Bureau project, individual researchers were asked to trace their country's experience with a view to identifying: (1) when and why exchange control was adopted, and how the control regime was intended to relate to the country's domestic economic goals; (2) the evolution of quantitative restrictions (QR's) after their initial imposition; (3) efforts, if any, to ameliorate the undesired results of the payments regime; (4) experiences with attempts at liberalization and the timing of the economy's response to those attempts; and (5) the resource-allocational, income-distributional, and growth effects of the country's experience. Within that framework, each country author singled out for in-depth analysis a particular point in time during which the detailed working of the exchange control regime was analyzed, and selected one liberalization effort for intensive analysis.

On the basis of the results from individual studies to date, we have been surprised at the degree of similarity among seemingly diverse countries. On each topic, certain broad conclusions have emerged. We discuss each very briefly.

Motivation for QR-Regimes

In virtually all countries, exchange controls and quantitative restrictions were adopted in the early 1950's in response to either unsustainable payments positions resulting from the shift in foreign exchange earnings associated with the end of the Korean boom or from the running down of reserves accumulated during World War II. Either way, initial adoption of exchange controls was generally an ad hoc response to external events. Rapidly, however, quantitative restrictions were perceived as a means of furthering

domestic industrialization policies. Whether it was the rapid shift in international market conditions during the 1952-1954 period or memories of the Great Depression, most policy makers were pessimistic--probably to an objectively unwarranted degree--about prospects for growth through industrialization based upon export growth and diversification. The optimal resource allocation dictum--that the marginal cost of earning foreign exchange should be equated with the marginal cost of saving foreign exchange--was generally abandoned in favor of saving foreign exchange at all costs. Given that view, governments perceived QR regimes as an instrument to be used to attain the domestic economic goal of industrialization, which was rightly or wrongly identified with the somewhat separate goal of raising per capita incomes.

In the process of using exchange control to foster the growth of domestic industry, however, the internal working of the QR systems generally frustrated, at least partially, the very domestic goals they were designed to achieve. Bureaucratic allocational procedures, political pressures surrounding the administration of controls, and the private sector response to the unintended incentives created by the regime led to frustration of the goals the QR regimes were designed to serve.

Export-Promotion versus Import Substitution. Among the more interesting results that appear to emerge from our preliminary analysis of individual countries' experience is that countries which have had export-oriented development strategies appear, by and large, to have intervened virtually as much and as "chaotically" on the side of promoting new exports as other countries have on the side of import substitution. Yet, the economic cost of incentives distorted toward export-promotion appear to have been less than the cost of those

distorted toward import substitution, and the growth performance of the countries oriented toward export promotion appears to have been more satisfactory than that of the import-substitution oriented countries. If that conclusion is valid, the lesson is that policy should err on the side of allowing a higher marginal cost for earning than for saving foreign exchange.

In theory, there are four reasons why export promotion may be the superior strategy:

(1) Generally speaking, the costs of excess export promotion are more visible to policy makers than are those of import substitution. If there are departures from unified exchange rates, export-promotion growth can be sustained only by subsidies or other incentives costly to the government budget. Thus, there are built-in forces within the government against excessive export subsidisation and promotion. The equivalent costs of import substitution are borne by firms and consumers, and hence no obvious intra-governmental pressure group emerges as rapidly when incentives are biased toward import substitution.

(2) An export-oriented development strategy generally entails relatively greater use of indirect, rather than direct, interventions. There is considerable evidence from the individual country studies that direct intervention may be considerably more costly than is generally recognized (see Section II below). When policy-makers are concerned with export promotion, direct controls cannot be as pervasive as they can be under import substitution. Price controls, distribution controls, and a host of other detailed interventions make little sense, even to bureaucrats, when firms' outputs are intended largely for overseas markets, but appear attractive when production is oriented

toward the home market under import substitution. The fact that, under import substitution, government officials have power to remove or enhance domestic monopoly positions of import-competing firms implies that those firms can be induced to accept otherwise intolerable (and socially unprofitable) interventions with their decisions. By contrast, officials simply do not have the same degree of power over firms engaged primarily in the export market.

(3) Exporting firms, however much they may be sheltered on the domestic market, must face price and quality competition in international markets. Import-substituting producers, with no competition for domestic markets, are a pervasive fact of life in the developing countries where import substitution has been stressed. While there is little hard evidence on the subject, there is considerable reason to believe that sheltered monopoly positions may be important explanations of low productivity growth in the newly-established manufacturing industries in developing countries. Insofar as the adverse side effects of inadequate competition are less severe under the export-oriented strategy, it may be that export promotion is superior simply because it reduces the incidence of the problem.

(4) If there are significant indivisibilities or economies of scale, an export-oriented strategy will enable firms of adequate size to realize them. When import-substituting incentives dominate the domestic market, import-substituting firms generally are confronted with powerful incentives for expansion through diversification; each new product line provides one more domestic monopoly position and profitability dictates relatively rapid diversification contrasted with expansion of capacity in existing lines. If indivisibilities and/or economies to scale are important, an export-oriented strategy will provide better incentives for expansion of capacity in existing lines. As such, an export-oriented growth strategy is better suited to

achieving whatever economies of scale are present than is an import-substitution strategy, where firms are generally limited in their horizons by the size of the domestic market.

These and other arguments supporting the case for an asymmetrical behavior of the export-promoting versus import-substituting economies appear to be borne out by the contrast in the success of South Korea and the relative failure of India, for example, in the countries studied in the Project. Since approximately 1960, the economic policies of South Korea have been heavily oriented toward growth through exporting. Exports of nontraditional products have been growing rapidly, with total exports rising from \$33 million in 1960 to \$1,067 million in 1971. The rate of growth of exports has been almost double that of real GNP. Close inspection of South Korean policies indicates that the kinds of detailed and chaotic interventions which we have found in other countries are abundantly present in Korea's case as well: numerous QR's, high tariffs and physical targetting of exports and imports. The striking difference, however, is in the remarkable degree to which the government has been willing to use exchange rate changes and to lean in favour of export promotion via preferential allocation of import licenses, etc. Thus, aside from other special factors such as the high inflow of foreign resources (official and private), the one striking aspect of Korean success has clearly been the significantly less discrimination against exports than in other developing countries, and not (it would appear) the presence of a neoclassically efficient allocation mechanism in toto in the system.

Whether this asymmetry between export promotion and import substitution is important or not awaits further exploration as the final results of the

country studies emerge. What is clear is that, of the countries which have stressed export promotion, none have been free from interventions of the type that economists generally identify with QR regimes and import substitution strategies, and that the export promotion strategies generally appear to have higher payoffs.

Nominal versus Effective Devaluation. One of the most striking aspects of QR regimes is the degree to which they quickly give rise to a proliferation of effective exchange rates (the amount of domestic currency paid when a good is landed per dollar of c.i.f. value). Export rebates, tariffs, surcharges, import entitlement schemes, and a host of other devices are generally employed under QR regimes, and they lead to a wide dispersion in effective exchange rates by commodity categories. Moreover, the increasing resort to changes in surcharges and export subsidies and alterations in effective exchange rates mean that, even without a formal devaluation, there are many degrees of partial devaluation in QR regimes.

Usually, formal devaluation is accompanied by the partial or total removal of export incentives and surcharges upon imports. The result is that changes in the parity, as reported by the IMF, do not necessarily provide a good indication of the economically relevant magnitude of the devaluation. Table I provides estimates of the nominal and effective devaluations for some of the countries included in the project for which results are fairly complete.

As can be seen, the disparity between the extent of nominal and effective devaluation can be quite wide, even without taking account of movements in the domestic price level in the period after devaluation. Thus, in Egypt, Bent Hansen's study shows that the 1962 devaluation was little more than a tidying-up operation: complicated export bonuses and import charges were replaced by across-the-board measures, so that the average local currency payments and receipts per dollar of international transactions increased by only one-fourth the amount of nominal devaluation. For Chile, Jere Behrman's

TABLE I

NOMINAL AND EFFECTIVE DEVALUATIONS

Country	Date	Old Parity	New Parity	Nominal Devaluation	Effective Devaluation
		Currency Units per dollar		(percent of previous rate)	
Egypt	1962	.352	.435	23.5	6.0
Turkey	{1958	2.80	9.00	221.4	75.0
	{1970	9.00	15.00	66.7	38.0
India*	1966	4.77	7.58	58.9	32.0
South Korea	1961	62.5	127.5	104.0	40.2
Chile	{1959			46.8	38.0
	{1963			62.0	44.0
	{1966			23.3	25.1
	{1969			31.8	30.2

* The effective devaluation figure is a simple average of the effective devaluation for imports and exports.

Sources: Texts of individual country studies.

study shows effective devaluations to be about two-thirds the nominal ones in 1959 and 1963. By contrast, when Chile adopted frequent exchange-rate adjustments in the late 1960's, the effective devaluations slightly exceeded the nominal, although real devaluation was much smaller.

Determinants of Success of Liberalization. Because of the significant difference in practice between nominal and effective devaluation, we believe that it is important, under QR-regimes, to distinguish between devaluation and liberalization.

Liberalization may be said to occur when the official price of foreign exchange assumes an increased role in the allocation of resources, whereas devaluation occurs whenever nominal exchange rates are altered. Thus, as illustrated by Egypt's 1962 episode, it is possible to have a devaluation in which the altered nominal price of foreign exchange has little or no effect on resource allocation, and quantitative restrictions and other direct interventions maintain their importance as allocative instruments. In other cases, such as the Turkish devaluation of 1958 and the Indian devaluation of 1966, the devaluation more than offset the reduction and removal of surcharges, taxes, and export premia. In that circumstance, the official price of foreign exchange increased in importance as an allocator of scarce foreign exchange, at least in the short run.

The difference between nominal and effective devaluations has the important effect that, as happened with the 1966 Indian devaluation, the criteria by which the devaluation is judged are typically confused; and the "rationalization" implicit in shifting from a de facto to a de jure devaluation (resulting in no effective devaluation) is ignored and the nominal devaluation is assessed as though it was also the effective devaluation.

Another important set of conclusions relates to the role of political factors in the assessment of the success of a devaluation/liberalization effort: the Indian case in 1966 again illustrating the difficulties which attend on devaluing from a position of weakness under pressure from aid donors, and the possibly-lasting and deleterious effect of such phenomena on the repeatability of a liberalization effort.

The studies also point up a number of other interesting conclusions regarding the likelihood of effective devaluations leading to continued increases in the allocative function of the price of foreign exchange. A few vignettes are worth pointing out here. (1) Starting from the long exposure to automatic protection under the QR-regime, few industries will accept the consequence of effective devaluation and reduced reliance on QR's; namely, the need to compete or contract. As Michaely's study of Israel and the Bhagwati-Srinivasan analysis of the 1966 Indian episode show clearly, liberalization works only insofar as imports of noncompetitive imports are involved, and the degree of protection to import-using industries may even increase as imported intermediates get liberalized. (2) The effect of liberalization is often to induce a recessionary tendency rather than the traditionally-feared inflationary impact. The recessionary impact follows from governments typically trying to contract monetary and fiscal policy, while ignoring the fact that the devaluation itself sets up endogenous recessionary tendencies. These come from several sources: (i) the excess of imports over exports, thanks to influx of aid and private capital, itself implies deflation with devaluation; (ii) the increased imports of materials can lead to increased output and lowered profit margins and may adversely affect investment in the import-competing activities whereas the exporters may not push up investment in time because they expect the increased export

incentives to be neutralised or the system remains so loaded against exports that exporters find it difficult to increase their investments sufficiently; and (iii) as in Turkey, the initial effect of an effective devaluation seems at times to be to reduce construction activity, with adverse effects (at least in the short run) on employment and income. (A point of some interest here is that, in India, during 1966, the coincidence of a bad agricultural harvest meant that the government was anyway contracting fiscal and monetary policy so as not to add to inflation induced by the scarcity of wage-goods: thus, having a devaluation at the same time as a bad harvest, is likely to imply that the devaluation will be correlated with a recession and get a bad name just as a devaluation followed by an unrelated inflation is likely to be blamed for the inflation by uncritical observers.)

The Project includes a number of cases of successful liberalization (e.g. South Korea after 1960 and Brazil after 1968) and unsuccessful liberalization (India after 1966, Philippines in the mid-1960's, Colombia during a similar period) and the resulting contrasts serve to throw into sharp relief the factors which influenced these outcomes.

Payments Regimes and Economic Growth. The determinants of a developing country's overall growth rate are numerous, and the payments regime is only one such factor. The interaction between the payments regime and economic growth is complex, and depends upon a host of other factors in individual countries.

That the effects of the payments regime on growth cannot be analyzed without regard to other aspects of the domestic economy cannot be stressed enough. Clark Leith's findings on Ghana provide a good illustration. Its major export, cocoa, is almost unaffected by the payments regime directly.

The price paid to producers is determined by the Cocoa Board, and is independent of the exchange rate. On the import side, government control over credit allocation under credit rationing, combined with severe capital market imperfections, means that the demand for imports is more a function of government policies in the credit market than it is of the price of foreign exchange. All new investment projects must be approved by the government, which has power to grant or withhold subsidies and other privileges large enough to make the difference between profit and loss on virtually all investment projects. Under such circumstances, it would be folly to analyze the payments regime as if entrepreneurs were responding in perfect markets to price signals alone. This is not to say that the payments regime does not have its own effects upon resource allocation and growth, but rather that analysis of those effects is considerably more complex than is generally assumed. The individual country studies and our forthcoming synthesis explore these interactions in some detail.

II. The Anatomy of Quantitative Restrictions

As indicated above, one of the topics covered in depth in most of the individual country studies is the criteria and methods used for administering a QR regime and the resource-allocational effects of actual allocation systems. In this section, we present some of the findings that emerge from comparison of results of the individual countries, focusing upon the effects of import licensing systems.

Tariffs versus Quotas. It is always true that every quota has a non-negative tariff equivalent at each point in time for every recipient of an import license. However, it is not always the case that there is a single

tariff-equivalent for a quota for a given homogeneous import commodity, and it is generally false that the resource-allocational effects of a quota are the same as those of the tariff-equivalent even when there is a single tariff equivalent.

The reason why there may not be a single tariff equivalent for the import of a homogeneous commodity is that resale of imports is often illegal. In that case, there is no reason to expect a common implicit domestic price in the absence of a perfect and costless black market. Thus the criteria for allocation and the actual detailed bureaucratic decisions as to who should receive an import license, and how much each should receive, will in general affect resource allocation.

Even when there is a single domestic price for the imported good, the method of license allocation makes an important difference to resource allocation and income distribution. It is useful to think of the differences between the c.i.f. price of the good (at the nominal exchange rate) and the domestic price as consisting of two parts: (1) the duties, surcharges, and other costs of landing paid by the actual importer, including his normal costs of foregone interest, handling, and so on; and (2) the premium accruing to the recipient of the import license. The local currency cost of the c.i.f. import plus the first item equals landed cost. Landed cost in local currency divided by the c.i.f. price in foreign currency equals the effective exchange rate. Landed cost is then the price that would prevail in the domestic market if there were no QR's upon the import. The premium, therefore, is the wind-fall gain accruing to the recipient of an import license.

The precise allocation of import licenses makes for important differences because it determines who will receive the premium; we note two here. (1) If licenses for intermediate goods imports are allocated directly to producers,

these producers are implicitly being subsidized in their production process. A devaluation would increase the costs of the manufacturers using the intermediate good. If, however, licenses are allocated to importers who then resell to the manufacturers, the premium accrues to the importers. If devaluation is then carried out, there will be no effect on manufacturers' costs unless the size of the devaluation exceeds the size of the premium.

(2) The calculation of effective protection again must allow for the fact that some imports would be obtained directly by producers at premium-exclusive prices and others at premium-inclusive prices. The resulting estimates of protection can be significantly different than if no adjustment was made for the indirect allocation of imports of intermediates to producers, as illustrated for example by the Bhagwati-Srinivasan study of India.

That the distinction between premium and landed cost is important can be seen by inspection of Turkish data for 1968 presented in Krueger's study. At an official exchange rate of TL 9 = \$1, it appeared that the average landed cost of \$1 of imports was TL 23.8 and the premium was TL 23.1. Of course, there is wide variation in premia among imported commodities, as well as at different points of time and in different countries.

Logic of QR's. Once a QR regime is established, it seems to have an internal, self-contradictory logic all its own. Whereas tariffs remain unchanged in the absence of decisions to alter them, the tariff equivalent of quotas tends to fluctuate widely without such decisions and the unintended side effects of QR's tend to force additional changes. Decision-makers do not receive visible feedbacks as to the effects of their actions. Thus, one finds quota categories where the quotas are redundant and there is a zero premium side by side with quota applications exceeding the amount of the quota by exorbitant multiples. Yet these multiples provide little information to

those allocating quotas, because the amount of applications is itself influenced by expectations as to the probable disparity between the amount applied for and the amount received.

But that is only a small part of the story. For, once a QR regime is established, quotas inevitably become a tool seized upon by governments to accomplish a host of purposes other than the initial one of restraining ex-ante payments imbalances. Thus, "priorities" are established, and preferential treatment is given to applicants willing to further an officially-desired goal. For example, efforts are generally made to encourage capital goods imports at the expense of consumer goods imports, in the hope of accelerating the rate of investment. In turn, the newly-established manufacturing capacity often has intermediate goods import "requirements" which can be met only at the cost of reducing capital goods imports, thus defeating the initial purpose of the priority. Moreover, in increasing capital goods imports, consumer goods imports are the first to go, and the production structure of the domestic economy becomes increasingly oriented toward consumer-goods.

Once that happens, growth in investment becomes increasingly dependent upon expansion of imports, itself a function of export growth. Yet the protection afforded to producers in domestic markets by QR's is so great that profitability lies in expanding domestic sales and disincentives to export increase. By this point, governments are trapped: if they devalue the currency (which could have been done in the first place as an alternative to QR's), they fear that the rate of capital formation will decline, as capital goods become more expensive. If they do not devalue the currency, they must resort to ad hoc measures such as export rebates, import entitlement schemes for exporters, and the like, in order to stimulate export growth. As these

"incentives" grow over time, the regime becomes increasingly piecemeal. In virtually all the countries studied in the project which have had QR systems, governments themselves have reacted against these undesired side-effects and proliferation of special regulations that seem to result from QR systems.

The tendency toward increasingly detailed, often internally inconsistent, controls, and the resulting frustration of initial intentions, shows up in numerous ways. In India, a major goal was the reduction of concentration in economic power, which presumably meant reducing the share of the large industrial concerns in industrial output. Yet the regulations and procedures surrounding licensing applications (for investment and for imports) became so complex that the large firms had a strong competitive advantage in satisfying license requirements: their share actually increased. In Turkey, import licenses were granted to establish assembly industries in the expectation that those (import-substitution) industries would save foreign exchange and provide incentives for domestic production of parts and components. Instead, people invested in the assembly industries in order to earn import licenses, and the value of licenses for assembly industry requirements of intermediate goods increased, rather than decreased, during the 1960's, while domestic content requirements had to be employed to induce investments in parts and components producing activities.

Wide Variations in Economic Costs. When producers know that they will benefit from complete protection from imports once domestic productive capacity is established, there are powerful profitability incentives to establish capacity regardless of the social opportunity costs of so doing. The drive to industrialize has been such an important goal that few of the countries covered in the Project have been able to resist using QR's to provide those

incentives. In India and Turkey, goods have simply become ineligible for importation once domestic productive capacity was established. In Egypt and Ghana, the same thing happened de facto. In Brazil, the Law of Similar, combined with a provision that tariff rates be doubled once domestic production started and domestic content requirements be imposed, achieved the same result.

It is easily predictable that under such systems, the variation in domestic resource cost among and within industries will be great. One of the purposes of the country studies was to quantify the extent of this variation, and the results show remarkably wide differences. We do not find that all import-substitution firms are inefficient. On the contrary, some appear to have very low costs while others require a large multiple of all resources in order to save an equal amount of foreign exchange.

In view of this, a major defect of the QR system seems to be its inevitably indiscriminate nature. If, within such a system, low-cost activities could be differentially encouraged, the excess costs of the system should be significantly lower. Yet, the workings of the system seem invariably to result in an inability to reflect differentials in social profitability to individual decision-makers.

Actual User Licensing. We have already shown that the allocation of import licenses to firms using imported goods in their production process has different resource-allocational implications from those that arise when premia on licenses accrue to individuals who then resell to actual users. One feature of most QR systems is that they have tended to become increasingly actual-user oriented, and the fraction of import licenses allocated directly to user firms has increased over time.

The motive for this method of allocation seems reasonable enough: it is designed to avoid allowing large windfall gains to accrue to persons who apparently do nothing but apply for import licenses and, in addition, it rewards those individuals who have contributed toward the industrialization goal, as well as providing an implicit subsidy for recipient firms.

Difficulty, however, arises from the fact that criteria for allocation of licenses among actual users are needed in the presence of excess demand. Without such criteria, the allocating officials are naturally accused of favoritism. The most frequently adopted criterion has been to allocate licenses to recipients in proportion to different firms' capacities, although almost all countries have made provisions whereby new entrants would be entitled to an initial allocation.

This allocational criterion has had two closely-interrelated and deleterious side effects. (1) it has, predictably enough, encouraged the development of excess capacity, and (2) it has resulted in roughly proportionate expansion of all firms in a given industry with little competition between them. Moreover, the logic of licensing in proportion to capacity seems to lead to licensing of investments.

Turning to excess capacity first, in many newly-established industries, firms' output levels are determined, within fairly narrow limits, by the volume of imports they obtain. Hence, summing over firms within an industry, the industry's output is closely tied to the imports of intermediate goods allocated to it. The fact that there are excess profits to most firms at that level of output is reflected by the premium on import licenses: any individual firm could increase its total profit if it obtained more imports.

The only way to get more imports, however, is to expand capacity, since

one's import rights are a function of his share in total capacity of the industry. Thus, even with existing excess capacity, it can pay to build more, since the return on the investment is the premium to be earned per unit of imports times the expected increment in import licenses. Note that this can be true even if the total value of imports of intermediate goods to the industry were to remain constant: the firm that failed to expand would receive fewer import licenses.

When policy-makers perceive this result, a natural response is to attempt to control the expansion of capacity. Then, investment licensing follows import licensing. Again, criteria are needed, and the circle has one more twist: profitability cannot be used as a criterion, since it emanates from import licensing procedures, and also is regarded with suspicion (the bureaucrats are rewarding the already-rich large firms). Thus, the natural temptation is to allow expansion proportionately over all applicants, or over all firms. Decisions about the relative rates at which different industries shall be expanded must then be made, and private profitability departs further and further from social profitability.

This brings us to the effect of import, and investment, licensing upon competition. For those industries where a firm's imports determine its output, the firm-specific allocation of imports determines market shares. With output fixed in the short run, there is little competition among firms. If there were no investment licensing, it might be that more profitable firms would expand more, with higher equilibrium levels of excess capacity in the long run. In general, however, investment licensing rules out even that form of competition, perhaps preventing excess capacity, but insuring the growth of efficient and inefficient firms alike. We spoke earlier of the asymmetries

of export promotion and import substitution. It may well be that, in dynamic terms, the inability of QR systems to foster relatively more rapid growth of more efficient firms is one of the gravest drawbacks of the QR-import-substitution development pattern.

III. Summary

We have only been able to scratch the surface of the results of the NBER project. Many of the statements we have made require, and indeed have, careful documentation and elaboration. Moreover, there are numerous topics on which we have been unable to touch due to space limitations--evidence on export responses to altered real exchange rates, macroeconomic considerations in exchange rate policy, many of the factors (such as effect on R&D) involved in the trade regime-growth interaction, and the limits to QR regimes resulting from smuggling, faked invoicing, and similar phenomena.

We have tried to focus on two essential points. First, the payments regimes of developing countries are inextricably linked with domestic policies and cannot be analyzed except in the context of those policies. Second, QR systems appear to have administrative, political, and economic implications which give them a life and logic of their own. These implications generally are complex, but usually result in the proliferation of detailed regulation and a frustration of the very goals they were initially intended to promote.