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## Chapter 7

# Export Performance and Other Effects

We now proceed to discuss a number of miscellaneous growth and distributional arguments regarding the effects of the foreign trade regimes. We start with the effects on export and then discuss economic performance. (This subject might have followed immediately on the analysis of allocative efficiency in Chapter 5 but has been relegated here as export performance seems to affect *growth* performance in diverse ways as discussed in Chapter 8.) We then consider rather more "greyish" areas such as the effects on innovation and technical change and on quality of labor and on entrepreneurship in general. Finally, the evidence in the Project studies on the effects of the foreign trade regimes on income distribution is reviewed.

### EXPORT PERFORMANCE

Anne Krueger's companion volume reports on the results of the Project studies in regard to export performance in detail and analyzes the results in great depth.<sup>1</sup> Hence our treatment here will be extremely brief and addressed only to a few essential observations.

1. First, note that a principal result of overvaluation of the exchange rate, as in Phase II regimes, is that there is a *bias* against exports. The ratio of the effective exchange rate on exports ( $EER_x$ ) to that on imports ( $EER_m$ ) can be taken as an index of how far exports are profitable relative to import-competing production. Hence when  $EER_x/EER_m$  is less than unity for a commodity this may be described as the existence of a bias against its exportation.

This index of bias against exports dates back to the 1960s and was in

vogue in India, for example, where it was used, taking into account the incentives on *both* outputs and inputs. For example, the incentive implicit in the availability of imported inputs at tariff-exclusive (i.e., international) prices would also be taken into account.<sup>2</sup> Furthermore, this definition of export bias (as the ratio of effective exchange rates in export and domestic markets) is identical with the later definition of export bias, used in the World Bank documents, for example, *for individual activities* as the ratio of effective rate of protection in foreign and in domestic markets.<sup>3</sup>

The export-bias index,  $EER_x/EER_m$ , basically seeks to capture the relative price change between exportables and importables on the presumption that (with the usual restrictions such as convexity and competitiveness of markets being satisfied) this would imply a corresponding production and hence export-level shift. However, it is readily possible to construct analytical exceptions to this conclusion so that, as with other indices that are used to "explain" reality, this index also has to be regarded with some caution.

In fact, the Project studies, attempting to take into account also the complications inevitably introduced by the presence of non-traded goods and of differential rates of overall inflation in different countries also utilized the concepts of domestic price-level-deflated *EERs* (i.e., *PLD-EERs*). These were deflated in turn for foreign price-level changes (i.e., *PPP-EERs*), which make them close to purchasing-power-parity notions, of course.<sup>4</sup>

2. As it happens, there are several different types of evidence available in the Project studies to suggest that restrictive foreign trade regimes, with high explicit or implicit tariffs and associated export-bias ( $EER_x/EER_m < 1$ ), are associated with lower export performance, and that changing the overall foreign trade regimes successfully to Phases IV and/or V, with significantly reduced reliance on exchange controls and reduced export bias as well, pays handsome dividends in terms of higher exports.

First, there is the usual type of evidence that, after successful liberalization (normally accompanied by devaluation), export earnings may decline or be sluggish but later tend to show responsiveness. This phenomenon, known in the literature as the *J-curve* behavior (with initial decline and later rise), has been documented for a number (but by no means all) of the liberalization episodes that the Project countries experienced and that have been studied in depth. Thus, for example, the June 1966 Indian devaluation and liberalization policy package, once adjustment was made for the exogenous decline in exports brought about by two serious agricultural droughts, showed this pattern of export behavior.<sup>5</sup> In many cases, attention has been focused on the short-run export response so that the medium- and long-run response, which was more favorable, has been missed by earlier analysts.<sup>6</sup>

Next, the Project studies provide a considerable amount of statistical analysis of the responsiveness of minor exports in particular and manu-

factured exports in general, which (on the basis of regression analysis using mainly time-series estimates) suggests strongly that the exports of these developing countries are in general responsive to price changes. This evidence is at the micro-level for specific commodities (including sometimes even primary products) and also for broad aggregates by sectors. Table 7-1 contains several of the regressions produced by different authors in the Project on this question and which are broadly destructive of "elasticity pessimism."<sup>7</sup> It should be noted that the Project studies do deploy different indices for their price variable. There is indeed here some of the tendency among econometricians to keep shifting among alternative price variables until something "works." But, with this customary caveat in mind, we should note that the evidence broadly supports those who contend that prices do matter.

Finally, Krueger's cross-sectional analysis of the ten Project countries in her synthesis volume also underlines the significance of prices in improving or inhibiting the growth of exports. In her regressions, she uses dummies to represent Phases I, II, IV, and V. The Krueger regressions indicate that *PLDEERS* on exports seem to affect both traditional and non-traditional (otherwise described as "minor" in many of the studies) export values, and that Phases IV and V do seem to affect export performance favorably.<sup>8</sup>

In this regard, note the vastly more important point that the Project results indicate strongly that it is really a shift to successful liberalization and therefore *continuing* liberalization that is critical to improved export performance on a *sustained* basis; that is, a shift to Phase IV from Phase II will show such an improved performance, but not really occasional jabs at liberalization, each resulting in eventual relapse into Phase II (from Phase III liberalization attempts). Thus, it is the sustained transition during the 1960s from Phase II to Phase IV or Phase V by South Korea, Israel, and Brazil that was attended by high rates of export growth.<sup>9</sup>

Additionally, it is also worth noting that it is not just the price aspects of the restrictive Phase II regimes that inhibit export performance. As has been documented in the Indian case, for example, the whole framework of exchange controls in a Phase II situation militates against export performance. Thus, for instance, the ability to expand production to fill export orders requires access to import licenses for raw materials, and capacity expansion requires import (and industrial) licenses. In each case, red tape and uncertainty cloud the scene.<sup>10</sup>

Finally, drawing on other evidence, we may note that statistical analysis of the usual decomposition variety where the export performance of several LDCs is decomposed into that attributable to overall growth of demand, regional composition, commodity composition, and a residual "competitive factor" effect, contrasting the 1950s when most LDCs were in Phase II and the 1960s when some had successfully shifted to Phase IV, shows that the latter

Table 7-1. Principal Project Results on Time Series Regressions of Exports

Country	Years	Equation	Y: Export Variable	X: Foreign Exchange Rate Variable	Estimate of Coefficient of X (t-Statistic)
Chile	1947-1965	$Y = a + bX_1 + cX_2$ + standard deviations of relative prices + quantitative supply factors + quantitative demand factors	Agricultural real exports	$X_1$ : Ratio of unit value of sectoral exports multiplied by the exchange rate to the sectoral labor price including employer social security contributions  $X_2$ : Black-market PLD-nominal-exchange-rate <i>minus</i> national accounts PLD-NER	b: 39.2 (9.1)  c: 6.72 (2.6)
Chile	1947-1965	$Y = a + bX_1 + cX_2$ + standard deviations of relative prices + quantitative supply factors + lagged exports	Large-scale mining real exports (f)	$X_1$ : Ratio of U.S. producer price for copper adjusted for direct tax rate on mining to index of intermediate prices for mining adjusted for the nominal exchange rate for large-scale mining.  $X_2$ : Ratio of U.S. producer price for copper adjusted for direct tax rate on mining to price of labor in mining including employer social security contributions.	b: 6.83 (7.8)  c: 1.34 (6.2)

Table 7-1 (continued)

Country	Years	Equation	Y: Export Variable	X: Foreign Exchange Rate Variable	Estimate of Coefficient of X (t-Statistic)
Chile	1947-1965	$Y = a + bX_1 + cX_2$ + standard deviations of relative prices + (modified) quantitative supply factors + lagged exports	Large-scale mining real exports (II)	Same as above	b: 7.99 (5.6)  c: 1.58 (4.4)
Chile	1947-1965	$Y = a + bX_1 + cX_2$ + quantitative supply factors + quantitative demand factors	Small- and medium-scale mining real exports	$X_1$ : Same as for large-scale mining, but lagged one year $X_2$ : PLD-NER, lagged one year	b: 0.99 (5.8)  c: 25.1 (1.5)
Chile	1947-1965	$Y = a + bX_1 + cX_2 + dX_3$ + standard deviations of relative prices + quantitative supply factors + lagged exports	Industry real exports	$X_1$ : Ratio of unit value of sectoral exports multiplied by the exchange rate to domestic sectoral domestic product price $X_2$ : PLD NER, lagged one year $X_3$ : Black-market PLD-NER minus national accounts PLD-NER, lagged one year	b: 5,271.0 (2.8)  c: 117.1 (4.2)  d: 40.8 (5.1)
Colombia	1955-1972	$Y = a + bX + cZ_3$	Change in log of dollar value of recorded minor exports	Change in log of PPP-EER for recorded minor exports	.81 (2.50)

Colombia	1955-1972	$Y = a + bX + cZ_3 + dZ_4$	Change in log of dollar value of recorded minor	Change in log of PPP-EER for recorded minor exports	.87 (2.84)
Colombia	1955-1970	$Y = a + bX + cZ_3 + dZ_4$	Change in log of dollar value of exports of BCST	Change in log of PPP-EER for recorded minor exports	1.13 (2.54)
Colombia	1955-1970	$Y = a + b + cZ_3$	Change in log of dollar value of non-BCST recorded minor exports	Change in log of PPP-EER for recorded minor exports	.59 (1.38)
Colombia	1955-1972 quarterly	$Y = a + bX + cZ_3$	Change in log of dollar value of recorded minor exports	Change in log of PPP-EER for recorded minor exports	.95 (3.59)
Colombia	1955-1963 quarterly	$Y = a + bX + CZ_3$	Change in log of dollar value of recorded minor exports	Change in log of PPP-EER for recorded minor exports	.68 (2.02)
Colombia	1964-1972 quarterly	$Y = a + bX + cZ_3$	Change in log of dollar value of recorded minor exports	Change in log of PPP-EER for recorded minor exports	1.04 (2.07)
Ghana	1961-1962 to 1966-67	$Y_t = a + bX_{t-1/2}$	Log of value of non-cocoa exports in 1968-1969 prices in N\$ million	Log of PLD EER for non-cocoa exports	.44 (6.28)
Israel	1955-1969	$Y = a + bX + cZ_1$	Log of value added in exports of goods at constant prices	Log of PPP EER for exports of goods based on domestic prices of GNP	.50
Israel	1960-1969	$Y = a + bX + cZ_1$	Log of value added in exports of goods at constant prices	Log of PPP EER for exports of goods based on domestic prices of GNP	.65
Israel	1960-1969	$Y = a + bX + cZ_2$	Log of value added in industrial exports	Log of PPP EER for industrial exports based on domestic prices of GNP	1.19



Turkey	6 (10-19)	$Y = a + bX + cV_2$	Log of cotton or hazelnut or mohair or olive oil or raisin or tobacco exports in tons	divided by home goods price index	.57 (.21)
Turkey	5 (10-19)	$Y = a + bX + cV_3$	Log of hazelnut or mohair or olive oil or raisin or tobacco exports in tons	Log of foreign price of commodity multiplied times EER for commodity divided by home goods price index	-.01 (.17) to 5.39 (6.04)
Turkey	1 (15)	$Y = a + bX + cV_2$	Log of cotton exports in million dollars from 4th quarter of one year to 3rd quarter of next year	Log of foreign price of commodity multiplied times EER for commodity divided by home goods price index	-.05 (.08) to 8.21 (6.37)
Turkey	2 (15-19)	$Y = a + bX + cV_2$	Log of minor exports in million dollars	Log of foreign price of commodity multiplied times EER for commodity divided by home goods price index	.99 (.60)
Turkey				Log of foreign price of commodity multiplied times EER for commodity divided by home goods price index	.81 (.40) to 1.34 (.26)

*Abbreviations*

PLD = Price-level-deflated.

EER = Effective exchange rate.

PPP = Purchasing-power-parity.

BCST = Bananas and cotton and sugar and tobacco.

*Variables*

$Z_1$  = Log of aggregate capital stock in economy.

$Z_2$  = Log of capital stock in industry.

$Z_3$  = Index of instability of PPP EER for recorded minor exports, which is annual average of quarterly percentage fluctuations.

$Z_4$  = Lagged percentage change in output of BCST.

- $Z_5$  = Export price index of desiccated coconut 1955 = 100.  
 $Z_6$  = Domestic output of coconuts expressed in equivalent units of copra in thousands of metric tons.  
 $Z_7$  = Annual money wage rate in manufacturing in pesos divided by implicit price index for value added in manufacturing 1955 = 100.  
 $Z_8$  = Plywood export price index 1955 = 100.  
 $Z_9$  = Domestic output of logs in millions of board feet.  
 $Z_{10}$  = Sum of annual money wage rates in mining from  $t = 0$  to  $t = \tau - 1$ .  
 $\tau$  = Time variable such that  $\tau = 0$  in 1956 and  $\tau = 12$  in 1968.  
 $W_1$  = Non-agricultural output.  
 $W_2$  = Export incentives represented by combination of multiple foreign exchange rate premiums plus subsidies.  
 $V_1$  = Time.  
 $V_2$  = Log of index of total agricultural production.  
 $V_3$  = Log of index of total agricultural production lagged one year.

#### Notes

- (1) Non-cocoa exports typically account for 35 to 40 percent of total Ghanaian merchandise export earnings.
- (2) Diamonds are excluded from Israeli industrial exports.
- (3) (a) Colombian minor exports are non-coffee and non-petroleum exports.  
 (b) Minor exports constituted 34 percent of total Colombian export revenues in 1970-1972.  
 (c) BCST constituted 38 percent of registered Colombian minor exports in 1968-1970.
- (4) South Korean regressions were performed using Cochrane-Orcutt procedure.
- (5) (a) Turkish minor exports are non-chrome, cotton, hazelnut, raisin, tobacco, or wheat exports.  
 (b) Turkish minor exports averaged about \$100 million in the 1950s and ranged from \$133 million to \$192 million in the 1960s while total Turkish exports were \$320 million in 1960 and \$523 million in 1967.
- (6) (a) Israeli regressions have been run by Halevi and reported by Michaely.  
 (b) Philippines regressions have been run by Bautista and Encarnación and reported by Baldwin.
- (7) The *India* study does not report econometric results in a form reproducible in this table. The *Egypt* study has no results to report in this area. The *Chile* study also has estimates of export response in a general equilibrium framework, as against the single-equation estimates reported in this table.

Sources: *Chile*, pp. 186-187. *Colombia*, p. 65. *Ghana*, p. 131. *Israel*, p. 140. *Philippines*, pp. 132-138. *South Korea*, p. 85. *Turkey*, p. 209.

group of Phase IV countries had dramatically improved export performance *and* that a sizeable share of it could be assigned to the residual "competitive" factor.<sup>11</sup> Such analysis of the competitive factor is not generally considered to be as persuasive as the time-series analyses of the type deployed in many of the Project studies. However, it has considerable suggestive value and is corroborative of the conclusions indicated by the Project.

## II. EXPORT PERFORMANCE AND GROWTH PERFORMANCE

The interesting question, in turn, is whether the superior export performance associated with Phases IV and V also leads to superior economic performance in terms of growth.

There is little doubt that the Project countries that have managed to shift during Phases IV and V to sustained, improved export performance (i.e., Brazil, Israel, and South Korea) by reducing bias against exports have also managed to register acceleration in their growth rates whereas countries (such as India) with sustained Phase II regimes, and corresponding bias against exports, have generally continued their poor growth performance. This conclusion remains with us even when special contributory factors have been accounted for in the country studies.

Quite aside from the fact that transition to Phases IV and V is attended by *improved* growth rates, the cross-sectional contrasts among the Project countries indicate strongly that the countries that have shifted to Phases IV and V have *better* growth performance than those that have continued in Phase II-type restrictive regimes. This cross-sectional evidence is not merely apparent to casual scrutiny. Krueger's cross-sectional analysis of the Project countries in the companion synthesis volume also indicates a favorable relationship between Phases IV and V in particular, and export performance quite generally, and the observed growth rate.<sup>12</sup>

While the Project results are obviously based on Phase designation and hence on detailed and careful analysis of the ten countries involved, it may be noted that an important statistical analysis of Irving Kravis also supports our general results.<sup>13</sup> Using decomposition analysis to differentiate LDCs with high export performance based on domestic policies, and taking a thirty-nine-country sample, Kravis has noted a 0.51 Spearman coefficient between ranks with respect to the index of such export performance and ranks regarding the growth rate of real national product.

The possible *reasons* why this shift to Phases IV and V, and the associated improvement in export performance, leads to the observed improvement and superiority of growth performance are systematically taken up in Chapter 8 and lead to perhaps the most important "prescriptive" conclusions of the

Project insofar as the transition to Phases IV and V is then concluded to be a desirable policy objective. The analysis in Chapter 8 will naturally draw on the allocative efficiency and savings arguments of Chapters 5 and 6, respectively. But additional arguments will also be touched upon in regard to the links between foreign trade regimes and "growth" factors such as innovation and entrepreneurship formation. The evidence on these questions is therefore presented next.

### III. OTHER GROWTH EFFECTS

Foreign trade regimes may influence growth *via* their effect on the growth and quality of entrepreneurship and the degree of innovativeness and technical change.

#### A. Entrepreneurship: Quantity and Quality

It is sometimes argued that a Phase II regime is necessary, coupled with automatic protection to domestic industry, in order to generate domestic entrepreneurship. Perhaps there are primitive economies where such an argument may be made with some plausibility. But the Project countries surely do not seem to qualify.

Thus, in regard to India, Bhagwati and Srinivasan argue:<sup>14</sup>

The notion that India lacked an adequate supply of entrepreneurship and that a system of automatic protection conferred by the QR-regime was necessary to induce investment is impossible to reconcile with the facts of Indian history up to the time that planning began in the 1950s.

The tradition of entrepreneurship in India has long been documented by economic historians. Furthermore, this historic supply of entrepreneurship was not merely for trade but also for industry. In fact, the industrialization of India started in the nineteenth century and proceeded with moderate, and even negligible, tariffs during the first part of the twentieth century. Furthermore, the leading industrial entrepreneurship tended to be economically rational and even "progressive." Thus, Jamshedji Tata, who set up in 1913 the first successful Indian steel mill, came from a background and fortune in cotton trade; and he built up an efficient and stable industrial force which was critical to performance in a steel mill. And Morris D. Morris has shown clearly how, in the cotton textile industry, where a stable and disciplined labor force was *not* critical to performance, the entrepreneurs were willing to accommodate quite different labor practices rather than invest time and money in changing them. In Tata's case, the entrepreneurial activity even extended to setting up, from the beginning, a school to train Indian technicians to take over from the foreign personnel at the earliest!

It would appear to us, therefore, that in the Indian context it is not persuasive to argue that a QR-regime, with its automatic protection for indigenously produced items, was necessary to induce industrial investment. Furthermore, in the Indian case, the public sector has been an important investor in industry, thus weakening still further the argument for a QR-regime to provide automatic and indiscriminate protection to induce investment.

There is therefore nothing in the Indian experience to suggest that India could not have sustained the desired *ex-ante* levels of investment in industry by using a suitable tariff policy, the standard instruments of monetary and fiscal policy and her public-sector investment programs.

For the Philippines, Baldwin notes the substantial growth of domestic entrepreneurship in manufacturing during Phase II. However, he regards this as a shift from previous entrepreneurship in other sectors and therefore does not consider Phase II as having been a necessary condition for the *emergence* of entrepreneurship.<sup>15</sup>

Next, in regard to the *quality* of the entrepreneurship, while the question has not been explicitly addressed in the Project studies, it has been observed that Phase II regimes, with automatic or semi-automatic protection, are likely to create a *rentier*, as against a Schumpeterian capitalist, entrepreneurial class. This is particularly so if domestic free entry by native entrepreneurs is also strictly regulated by industrial licensing as in Pakistan and India up to the present date.<sup>16</sup> This is clearly one of the truly "grey" areas of economic analysis but not, for that reason, a most important issue in judging foreign trade and, indeed economic, regimes.<sup>17</sup>

## **B. Innovation and Technical Change**

Again, on the issue of whether Phase II-type restrictive regimes have any discernible effects on attention to quality, on innovation and technical change, on learning by doing, and so on, the Project studies have little evidence except for detailed treatment by Bhagwati and Srinivasan for India and much briefer judgments by other authors (e.g., Colombia, Chile, and the Philippines). The evidence, at least in the Indian case, would seem to suggest that Phase II regimes, when accompanied by excessively sheltered environments, do result in low quality and designing. But these conclusions do not necessarily carry over to technical change. Nor, for that matter, can one argue (at least on the basis of current evidence) that industries that are more involved in export markets, as against domestic markets, show greater attention to quality or to technical change and innovation.

Thus, in the Indian case, the authors consider four different arguments regarding the impact of the highly protective Indian Phase II regime on attention to quality and on technical progress. They then proceed to analyze the related, but distinct, question as to whether export orientation of industries makes them more technically progressive.<sup>18</sup>

First, they contend that in a regime that grossly reduces competition and creates a captive market for many products thanks to the doctrine of indigenous availability,<sup>19</sup> it would be "rational" and profitable for an entrepreneur not to pay attention to the quality of production. Thus, it is only the "quality-minded" entrepreneurs who are known to produce products that approximate international standards of performance for similar products. For the rest, the effects of the economic regime appear to be evident, though impossible to quantify. Products with faulty performance because of production defects or defects in the inputs of domestic manufacture are pertinent here.

Second, shading into the problem of innovation, is the well-documented phenomenon of "design deficiencies," which Mark Frankena<sup>20</sup> has studied in some depth for the engineering goods industry during the 1960s. Frankena carefully explains that he is not discussing design deficiencies in the sense that Indian producers do not produce the "latest," capital-intensive and automated designs, but rather that, even for designs that sell in the LDCs of Africa and Asia, the Indians are uncompetitive and "unpreferred" vis-à-vis those of rival producers. He also generally confines himself to examples that indicate that Indian designs are fully dominated by other designs, no matter what the shadow or actual prices of the factors of production.

Third, the authors state that they expect that the lack of competition in the Indian-type economic regime raises the possibility that firms may choose "leisure" rather than "profits." If this takes the form of being simply sloppy about reducing costs and increasing productivity from the plant by better management, this is equivalent to "technical regress" and to social disadvantage.

Finally, they attempt to examine whether estimation of technical progress for the Indian manufacturing sector shows any evidence of increase in productivity. They hypothesize that the result of a framework of sheltered markets would be the absence of any noticeable trend toward growth in productivity. They note initially that labor productivity did increase through the period of their study. However, they note that such estimates have little relationship to growth of overall productivity, and that the superior approach is to proceed by estimating production functions and "technical change" therewith. The results of proceeding by this alternative route are to generate an estimated positive *Hicks-neutral*, overall productivity change over the period 1946-1964 at 2.8 percent annually.<sup>21</sup> This "reasonably large" number would appear to suggest that Phase II did not retard "technical change" in the Indian manufac-

turing sector. However, the authors argue that this conclusion would be unwarranted because "new investments in the new industries already embody the growth of know-how abroad. The estimation of (Hicks-neutral) technical progress, using the 'disembodied' progress assumption, will thus tend to show positive, and even large, improvements in overall productivity even when there are no such improvements." They therefore conclude that "unless, therefore, the estimation of productivity change is adjusted for 'embodied' technical change—a factor of obvious importance for India which imported the bulk of its capital goods . . . [it is not possible to] reach a firm econometric conclusion on whether the framework of Indian policies retarded the growth of overall productivity in the economy."<sup>22</sup>

In regard to the differential effect of export orientation on technical change in specific industries, Bhagwati and Srinivasan noted that the cross-sectional test that might have been done, by comparing the technical change in the new import-substituting *versus* that in the old, exporting industries would not have made much sense because the former would necessarily show higher technical change insofar as they would embody the progress made abroad (as noted above). Ideally, therefore, the test would have required data on the new industries themselves, but testing whether the industries with larger export orientation were characterized by greater technical change, for example. But data for enough numbers of years to undertake the required time-series analysis were just not available. They turned therefore to the alternative route of finding out whether the export-oriented industries were characterized by greater research and development expenditures compared to the domestic-market-oriented industries. Here, the results were not encouraging to those who hypothesize that export orientation would lead to differentially higher technical change. Their conclusions may be quoted:

We must note . . . the increasing evidence that research and development expenditures are finally beginning to emerge on the Indian scene, in a number of import-competing industries, that such expenditure is being undertaken by the very large firms, and that it is undertaken in the process of import substitution itself and reflects a quasi-Kennedy-Weizsacker process of search for processes that would avoid the use of scarce, imported materials and develop the use of cheaper, indigenous inputs. Of course, as stated earlier, this research and development activity may be expensive in relation to results: but it is certainly there now and is adding to the technological maturity and expertise that the country seeks as an objective in itself. Historically, one has only to recall Japan's transition from shoddy manufacture under bad imitation to decent manufacture under good imitation to excellent manufacture under outstanding imitation to innovative manufacture in recent years. In such a historical perspective, it would appear logical to entertain the strong possibility that at least *some* of the inadequacies noted earlier may be due to the difficulties of "first-stage" manufacture

in a number of modern industries and that the growth of research and development in recent years may represent a growing transition to decent manufacture.<sup>23</sup>

Next, basing themselves on a specially commissioned survey of research and development expenditures and policies of chemical and engineering firms, they conclude:

(a) that the import substitution strategy does *not* eliminate the incentive to conduct research and development but merely imparts a bias toward conducting it in a different direction, so that the really important question then is not whether it is eliminated by the import substitution strategy but rather whether the kind induced by such a strategy reduces or increases welfare in relation to the research and development that would otherwise be conducted; and (b) that orientation toward export markets does not in itself seem to increase the incentive to conduct research and development, so that it is difficult to sustain the argument that an export promotion strategy is superior to an import substitution strategy because it will lead to greater (and presumably welfare-increasing) research and development in the economy.<sup>24</sup>

The argumentation and evidence from the other studies, while not detailed, is also somewhat mixed. Thus, Carlos Díaz-Alejandro writes for Colombia:<sup>25</sup>

Leonard Dudley, in a study of 25 import-substituting industries in the Colombian metal products sector during 1959-66, found important learning effects, explaining half of substantial productivity gains, particularly in casting, forging, and stamping. Whether or not import-substituting activities generated larger learning effects than exporting ones, however, is a moot point. There is anecdotal evidence showing that some firms (e.g., in textiles) are remarkably X-efficient and innovative whether they devote themselves to import substitution *or* to exporting, as are Germans with alternative socioeconomic systems. It will be recalled from Chapter 6 that as of 1971 major exporting firms still relied heavily on domestic sales. When the exporting experience becomes longer, and more differentiated from domestic sales, greater possibilities for exploring contrasts in behavior between exporting and import-substituting firms may become possible.

On the other hand, for Chile, Jere Behrman writes:<sup>26</sup>

Some advocates of more restrictive regimes claim that these barriers will permit development of native entrepreneurs and increases in labor productivities through learning by doing. Evidence to support these claims is difficult to find. The relatively low and stagnant productivities in the traditional import-substitution subsectors alluded to in Chapter 10, for example, if anything suggest the opposite conclusion. Restrictive barriers may have primarily lessened pressures for increased efficiency and productivity that the international market otherwise would have provided.

For the Philippines, the evidence cited by Robert Baldwin on technical change and its relationship to the Phases distinguished in the study is not decisive either. Thus, he cites the statistical exercise of Jeffrey Williamson where growth sources are broken down in the usual manner among input changes and technical change as the residual.<sup>27</sup> During Phase I, more or less spanning Williamson's period 1947-1955, technical change contributed 4.08 percent in an overall 7.3 percent growth rate. Williamson's second period, 1955-1965, unfortunately spans *both* Phase II initially and then Phase IV so that it is not possible to say anything contrasting about these two Phases. The technical change contribution for this period turns out to be 0.53 percent in an overall growth rate of 4.5 percent. Williamson cites the revival from wartime destruction as the possible cause of the unusually higher contribution of technical change in Phase I. And the low, almost negligible contribution of technical change in the later period may be cited as evidence of Phase II, continuing perhaps into Phase IV with a lag, being detrimental to technical change. But one is well advised to withhold final judgment on the issue.

#### IV. INCOME DISTRIBUTIONAL EFFECTS

Finally, the effects of the foreign trade regimes on income distribution, whether size or functional or in other classifications of political and sociological interest, must be noted. Evidence on these issues, now of great interest, is to be found in varying degrees in some of the Project studies.

##### A. Equality of Access by Small-scale Entrepreneurs

Note first that a principal defense of Phase II regimes appears to have been that the liberalized regime implied by Phases IV and V would favor the large-scale producers, produce regional imbalances, and be therefore inequitable. Chapter 2 has already discussed these matters, with evidence from countries such as India, Pakistan, and Colombia, and the conclusions are not supportive of these assertions in favor of restrictive regimes.<sup>28</sup> This conclusion is not surprising at all once one realizes that the rents implied by the restrictive regimes are unlikely, in the end, to be frittered away on those that do not matter, no matter what the politicians and bureaucrats say.

On the other hand, it does not follow that liberalized regimes, with greater export orientation, will have necessarily less inequality either. For, while such regimes would permit freer access to scarce imports, and hence greater scope for the smaller-scale and ill-connected entrepreneurs to get at these imports, it is possible that the basic inequality that is manifested in the unequal distribu-

tion of import licenses in Phase II regimes would merely be transferred to other areas such as imperfect access to investible capital funds. Thus, one may well hypothesize that unequal opportunities arise from basic, unequal distribution of wealth and status and that, whether the foreign trade regime is Phase II or Phase IV, the inequalities of access by the small-scale and underprivileged will persist and only their outward manifestation will change. But even this conclusion is destructive of the oft-repeated claim that restrictive regimes would produce greater equality of access by, say, the small-scale entrepreneurs.

Carlos Díaz-Alejandro has made this point in a broader context, arguing that unequal size distribution of income (to which we will presently turn) is also unlikely therefore to be sensitive to changes from import-substitution (Phase II) to export-promotion (Phases IV and V). Thus, he says:

In earlier chapters, I argued that Colombian import controls and the protective system in general do appear to reinforce income inequality, regional disparities, and industrial concentration. The protective system has also encouraged a large number of capital-intensive projects. . . the elimination of import controls would still leave a multitude of similar mechanisms through which the rich and powerful could take advantage of state power to buttress and further their position. Imperfections in domestic capital markets, to give one fashionable example, are as large a source of inequality as import controls. Thus, focusing just on the protective system can give a misleading impression of the true sources of inequality, confusing a symptom for the cause of the disease, which, as noted by many Colombians, lies in the excessive economic and political power held by privileged minorities. It is debatable whether the economic and political power such minorities may lose from the abolition of import controls is greater than the power gains that would accrue to, say, cattle, cotton, and sugar landowners from their expanding exports.<sup>29</sup>

## **B. Distribution of Income by Class**

The functional distribution of income, while it can be strongly related to foreign trade regimes in theoretical analysis (e.g., the familiar Stolper-Samuelson theorem),<sup>30</sup> does not appear to show anything like a strong and predictable relationship in the Project studies.

Thus, for Chile, Behrman finds that Phases and mean shares of labor income in GDP in Chile are not strongly associated.<sup>31</sup> On the other hand, Behrman notes that there are significant non-zero correlation coefficients among levels and rates of change of ERPs and implicit tariffs and levels and

rates of change of nominal wages and wage shares. The nominal and effective structures of protection created by the international trade regime thus were associated with low but relatively rapidly rising wages, the wage increases in turn being associated with the changes in protection.<sup>32</sup> At the same time, the short-run effect of devaluation appeared in Behrman's econometrics to show a negative impact on the real wages of labor.<sup>33</sup>

For Colombia, again, there is no *strong* association between labor share in GDP and the Phases. Instead, there is, as in Chile, an upward secular trend in labor's share.<sup>34</sup> Díaz-Alejandro notes however the *slight* downturn in this share (from 40.4 percent in 1967-1970 to 40.1 in 1971-1972) and the fact of this being Phase IV as against the earlier Phase II (with occasional Phase III episodes) when the share rose steadily (from 35.9 percent in 1950-1954). Whether this "end or reversal of the upward trend in the manufacturing and overall wage shares that had started after 1955-1958"<sup>35</sup> warrants the conclusion that liberalization of the foreign trade regime in Colombia had an unfavorable impact on the wage share in GDP may however be open to disagreement in view of the wide margins of error that attend the income-share data in developing countries.

For Turkey, Anne Krueger considers the impact of the foreign trade regime to have been felt, *not* on the division of income between broad groups such as capital and labor, but rather *within* these categories.<sup>36</sup> Thus she argues that probably the largest effect of the trade regime was on the distribution of labor income. This was because the import-substitution industries generally paid higher wages and required skilled workers so that an increase in demand for skilled workers raised the wages of those men relative to those of the unskilled. Moreover, the fact that demand for unskilled labor rose more slowly than under an alternative trade regime probably meant fewer employment opportunities, rather than lower wages, in the presence of minimum wage legislation.<sup>37</sup>

The incidence of fewer employment opportunities for unskilled workers was on the urban unemployed and those in rural areas who would have migrated if employment had been available. Insofar as there would have been more migration, per capita incomes in the agricultural sector might have been higher had urban employment increased more rapidly. Regardless of whether it was the urban unemployed or potential migrants who were adversely affected, the income-distributional effect was to increase the labor income accruing to one group and reduce the labor income going to another. Without quantitative evidence to estimate the magnitude of the increase in skilled workers' incomes and the elasticity of demand for unskilled workers, it is not possible to estimate whether labor income increased or decreased. *With the two changes in offsetting direction, however, it is likely that any change in aggregate labor income was relatively small.*

### C. Other Types of Distributional Effects

There is little else in the Project studies that is conclusive on issues such as the links of Phases with the size distribution of income or the distribution between different sectors. On size distribution, the evidence itself is very fragile and probably treacherous to compare across countries when available. However, it appears that a Phase IV country such as South Korea has had, *a la* Gini coefficients, a better income distribution both initially and trendwise than a Phase II country such as India. But this contrast may be rooted, not in the foreign trade regime, but rather in the wealth structure of the countries in question, in particular, in the land reform that the Japanese successfully imposed on Korea but which has escaped effective implementation in large parts of India. One might hypothesize, however, that Phase II regimes, by leading to more sluggish growth performance relative to Phase IV regimes, would *ceteris paribus* reduce the rate at which growing labor force may be employed gainfully and hence in "overpopulated" countries such as India may have contributed to greater poverty *via* increasing underemployment and thus to a deterioration in the income distribution, possibly in the Gini coefficient measure, and certainly in terms of the rather more telling index represented by the share of income going to the bottom three deciles.

On sectoral distribution of income, the Phase II regimes presumably would favor the import-substituting sectors vis-à-vis the exporting sectors. Here, however, the evidence suggests that the outcome is not inevitable in practice. Thus, as noted in the preceding chapter,<sup>38</sup> Anne Krueger notes that in Turkey the major exporting interests are in agriculture and mining. The effect for agriculture of any redistribution away from exporting interests that might have resulted from currency overvaluation was largely offset by the government's price policies toward agriculture, with price intervention by the various state agencies and cooperatives resulting in severing the relations between the real exchange rate and the price received by farmers for wheat, tobacco, figs, raisins, and hazelnuts. For those commodities, which constitute the bulk of agricultural exports, the chief determinant of prices was therefore the nature of the price support program and not the real exchange rate. As for the mining sector, mining activity was stagnant and even declining in response to the erosion of the real exchange rate. However, most mining enterprises are state-owned, and during the 1950s Central Bank credits covered most of their deficits, with the result that the incidence of the losses was spread over the entire community.

On the other hand, for Chile, Jere Behrman argues that the restrictive foreign trade regimes did "shift income and resources toward government, manufacturing and services"<sup>39</sup> and, additionally, that industries with presumably greater political clout did manage to secure higher levels and greater increases in the degree of protection. The latter conclusion is based on significantly non-zero correlation coefficients between the degree of concen-

tration in 1957 and the levels and rates of change of implicit tariffs and of effective rates of protection (for industries entering the manufacturing census).<sup>40</sup> Behrman also notes a discernible *regional* shift, linked with the sectoral shift in distribution:<sup>41</sup>

In the Chilean case, questions of regional distribution are tied quite closely to sectoral ones. Increased quantitative restrictions generally have caused shifts from the north (mining) and south (agriculture) to the center (manufacturing, commerce, and government). Most government revenues have been spent in the center, most imports are made to the center, and most expenses of operating the regime have been incurred in the center. The attempts to offset these movements. . . have only partially balanced the flows to the center induced by the other aspects of foreign-sector policy.

Perhaps the most dramatic regional impact of the foreign trade regime that has been noted in the Project is that in Pakistan where the export sector, predominantly based in East Pakistan (now Bangladesh), lost relative to the import-substituting sector located primarily in West Pakistan.<sup>42</sup> Given the regional imbalance in power, with the military rule reflecting mainly West Pakistani interests, the question must again be raised: Would a less restrictive regime not have led to the use of alternative means to divert resources from East to West Pakistan?

On balance, therefore, the Project evidence on the income distributional and egalitarian effects of the foreign trade regimes is somewhat sketchy and mixed. However, it seems to suggest that the income distributional outcome may reflect more basic underlying distribution of wealth and power. Therefore *either* the foreign trade regime is deliberately chosen (as perhaps in Pakistan and Colombia) so as to reflect the aims following from such distribution of power *or* the inadvertent or unavoidable effects of the foreign trade regime are offset (as in Turkey) by the adoption of other policies.

Moreover, insofar as the equality of access to scarce imports and industrial activities is concerned, the evidence on the *actual* working of import controls in some Project countries (e.g., India, Pakistan, Colombia) is hardly encouraging to those who would consider restrictive regimes to be egalitarian, thus casting doubt on the occasional assertion in Phase II countries that such a foreign trade regime, even if inefficient on allocational grounds, is superior on the distributional dimension.

## NOTES

1. Cf. Krueger, *Liberalization Attempts*, Chapter 8, for the short-term response of exports to Phase III episodes and Chapter 9, for the long-term response.

2. This definition of bias against exports is explicitly used in J. Bhagwati, *The Theory and Practice of Commercial Policy*, Frank Graham Memorial Lecture (1967), Princeton (International Finance Section), 1968. Also see V.K. Ramaswami's "Export Subsidy and Implicit Exchange Rates when Intermediate Goods are Traded," in his *Trade and Development*, J. Bhagwati, H.G. Johnson, and T.N. Srinivasan, eds. (London: Allen and Unwin, 1971). The concept of the bias against exports, familiar to trade theorists who study overvaluation, was developed independently in the OECD synthesis volume of Little, Scitovsky, and Scott, *op.cit.*, as well, but not precisely as defined above.

The effective exchange rate on exports is thus defined as the units of domestic currency that can be obtained for a dollar's worth of exports, taking into account export duties, subsidies and surcharges, special exchange rates, input subsidies related to exports, and so on. The effective exchange rate on imports ( $EER_m$ ) is correspondingly defined as the units of domestic currency that would be paid for a dollar's worth of imports, taking into account tariffs, surcharges, interest on advance deposits, and so on. In principle, the  $EER_m$  should include premiums on import licenses; however, in the NBER studies, the  $EER_m$  was defined exclusive of them for the simple reason that, for many countries, no reliable data on import premiums could be obtained either directly or via suitable surveys of c.i.f. and retail prices.

3. This has to be because any *differential* in the effective rate of protection between domestic and foreign markets for an industry, for example, must necessarily reflect fully the differential returns that accrue from exporting and domestic sales when full account is taken of the subsidies and taxes attaching to sales in the two markets. It should be emphasized that the equation of the two measures of export bias exists for *individual* activities.

4. Refer to the appendix giving the definitions of these concepts.

5. For a full discussion of the cross-country evidence, see Krueger's *Liberalization Attempts*, *op.cit.*, Chapter 8

6. For a notable exception, see Richard Cooper, *Currency Devaluations in Developing Countries* (Princeton, N.J.: International Finance Section, Princeton University, 1971). Cooper also notes the response of exports to devaluations in developing countries.

7. The responsiveness of minor, "new" exports suggests strongly that, while the  $2 \times 2$  trade-theoretic model where both goods are traded is unrealistic, the augmentation of this model with a *preassigned* non-traded good is also incapable of capturing reality adequately. What one really needs therefore is a model where goods may be traded or cease to be traded, depending on the policy equilibrium. Such a model, on Ricardian lines, was considered by P.A. Samuelson many years ago ("Theoretical Notes on Trade Problems," *Review of Economics and Statistics*, May 1964) and has been elegantly developed further by R. Dornbusch, S. Fischer, and P.A. Samuelson, "Comparative Advantage, Trade and Payments in a Ricardian Model with a Continuum of Goods," *American Economic Review* 67 (December 1977): 823-839.

8. Cf. Krueger's *Liberalization Attempts*, *op.cit.*

9. The role of expectations ensuring that export incentives are seen to have been made favorable over continued periods is obviously critical to this result: for that is when entrepreneurs will wish to make investments in export markets. See the extended discussion of the Brazil, South Korea, and Israel experience in Krueger, *Liberalization Attempts*, *op.cit.*, Chapter 9.

10. Again, this is the kind of effect on exports that only Phase-change analysis can pick up statistically, if at all.

11. Cf. Hossein Askari and Vittorio Corbo, "Export Promotion: Its Rationale and Feasibility," 1975. (Mimeo.) This statistical study was commissioned under the Project originally and also distinguished between "minor" and other exports, defining minor as all those exports that were below 10 percent of the total value in the initial year.

12. Cf. Krueger, *Liberalization Attempts*, op.cit., Chapter 11, Table 11-2.
13. Cf. Irving Kravis, "Trade as a Handmaiden of Growth: Similarities Between the Nineteenth and Twentieth Centuries," *Economic Journal* 80 (December 1970): 850-872 in particular. Also see the interesting study by C. Michalopoulos and K. Jay, "Growth of Exports and Income in the Developing World: A Neoclassical View," AID Discussion Paper No. 28, November 1973.
14. *India*, op.cit., page 213; all footnotes have been omitted.
15. *Philippines*, op.cit., pp. 141-142: ". . . a vigorous and economically bold group quickly moved into manufacturing from such activities as commerce, finance, and traditional exports," (p. 142).
16. Cf. J. Bhagwati, *India in the International Economy*, Lal Bahadur Shastri Lectures (1973), Osmania University Press, Hyderabad, India, 1974.
17. It is reminiscent of the nineteenth-century controversy over the British permanent settlement in Bengal where Francis, arguing on the basis of physiocratic doctrine, wished to vest rights in land in those who were hitherto tax collectors for the Mughals in Delhi, with fixed-rent obligations to the British, thinking that this would create the physiocrat-theoretic capitalist class on land that would accumulate and lead to economic progress, while Warren Hastings argued that the resulting landed class would instead become a rentier class. As it happened, Hastings turned out to be right!
18. *India*, op.cit., pp. 213-222.
19. See the discussion of this Indian rule of automatic protection in Chapter 2 above.
20. *India*, op.cit., pp. 213-222.
21. *Ibid.*, pp. 216-217.
22. *Ibid.*, p. 217.
23. *Ibid.*, pp. 218-219.
24. *Ibid.*, pp. 221-222. For further analysis and discussion of the survey results, see pp. 222-226.
25. *Colombia*, op.cit., p. 239; footnote omitted.
26. *Chile*, op.cit., p. 274; footnote omitted.
27. *Philippines*, op.cit., p. 142.
28. Cf. Chapter 2, Sections C(2)-(a) and C(2)-(b).
29. *Colombia*, op.cit., pp. 239-240.
30. Such models were discussed at length in Chapter 5.
31. "The largest decline was recorded in the Phase IV period of 1957-61, but the only other fall was for Phase II of 1952-55. Otherwise, an upward secular trend dominated. The same secular trend also predominated in the average real wage-again with little indication of Phase-associated fluctuations"; *Chile*, op.cit., p. 257.
32. *Ibid.*, pp. 257-258.
33. *Ibid.*, pp. 258-259.
34. Cf. *Colombia*, op.cit., p. 245; Table 8-10 on labor share in GDP and the corresponding Phases in Chart 1-1, for example, on p. 3.
35. *Ibid.*, p. 245.
36. *Turkey*, op.cit., p. 243.
37. *Ibid.*, p. 243. See full quote on pages 140-141.
38. *Turkey*, op. cit., p. 241; quoted in full on pages 146-147.

39. *Chile*, op.cit., pp. 263-264.

40. For detailed results, see *ibid.*, Tables A.5 and A.6 on pp. 329-333.

41. *Ibid.*, p. 264.

42. Cf. *Pakistan*, op.cit.