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3 Trade Strategies, Growth, and Employment

As indicated in chapter 1, there are several ways in which the choice of trade strategy (and the policy instruments used to implement it) is linked with the demand for labor. First, the trade strategy may influence the overall growth rate of the economy, thereby influencing employment through a variety of channels. Next, labor/output and labor/value added ratios may differ significantly between industries. Insofar as trade strategy influences the structure of production, differences in factor proportions between exporting and import substitution industries affect the demand for labor. Finally, policy instruments used under alternative trade strategies may affect the choice of technique within all or a subset of industries, inducing more or less demand for labor than would otherwise be the case for the same composition of output.

The focus of the alternative trade strategies and employment project was on the second and third of these links. In part this was because the previous project centered on the relationship between trade regimes and development. More important, however, was the consideration that, difficult as it is to relate changes in the rate of economic growth to choice of trade regimes, it is even more problematic to attempt to delineate the precise relationship between the overall rate of economic growth and employment. The reasons for this difficulty are inherent in the complexity of the characteristics of the labor market and the determinants of wage rates as discussed in chapter 2.

For most of this volume, therefore, attention is on the theoretical and empirical relationships between trade strategies and employment through the effect on composition of output and on factor substitution, without regard to the effect of differences in growth rates arising from alternative trade strategies. Nonetheless, that relationship is too important to be completely overlooked. This chapter, therefore, is devoted to

an examination of alternative trade strategies and a review of the results of prior research relating the choice of strategy to the rate of economic growth. In addition, the choice of trade regimes by countries covered in this project and their rates of economic growth are examined. It remains for chapter 4 to spell out the theory underlying the association between alternative trade strategies, the commodity composition of output, and factor proportions.

3.1 Export Promotion and Import Substitution Strategies

3.1.1 The Alternatives

Economic theory indicates that a necessary condition for optimal resource allocation for any country is that the domestic marginal rate of transformation (DMRT) among produced commodities should equal the international marginal rate of transformation (IMRT) among them. For a small country unable to influence its international terms of trade, international prices (f.o.b. for export and c.i.f. for import)¹ can be used to reflect IMRTs. In the absence of distortions in the domestic market, domestic prices can be used to reflect DMRTs.²

It is readily shown that any departure from this optimality rule results in a production cost to the economy: when the DMRT between a pair of traded commodities is unequal to the IMRT, switching production toward the item with the relatively lower domestic cost enables a country to receive more of the other commodity through trade than it can obtain through domestic production.

The optimality criterion leads naturally to a definition of bias of alternative trade regimes: bias defines the direction and the degree to which, on average, domestic incentives diverge from those that would prevail under free trade. The notion is most readily formalized in the two-commodity case. Let p 's represent international prices, and q 's domestic prices, with subscripts m and x denoting the import-competing and export goods respectively. Then, B , the bias of the regime, can be defined simply as:

$$(1) \quad B = \frac{\frac{q_m}{p_m}}{\frac{q_x}{p_x}} .$$

If the world and domestic prices of exportables coincide and the domestic price of import-competing goods is above the world price, $B > 1$, and the regime is biased toward import substitution. Conversely, if imports are subsidized, then $B < 1$, and the bias of the regime is toward exports. Naturally, the more B diverges from unity in a particular direction, the more biased is the regime.

When there are many export and many import-competing commodities, a weighting scheme must be employed to estimate the average bias of the regime. In that case both the overall degree and direction of bias and the variance in individual price ratios among commodities are of interest.³

One might anticipate that countries would stay fairly close to uniform incentives or that, insofar as they departed from the optimality rule, they might do so partly by encouraging some export industries and partly by protecting some import-competing industries, with an average bias not far from unity. However, while even the countries most oriented toward import substitution encourage some exportable industries (at least more than others) and export promotion countries normally protect some import substitution industries, one rarely encounters a bias of about unity in trade regimes with some high levels of protection for import-competing industries and some large incentives for export promotion. Instead, a number of factors tend to reinforce initial biases in trade regimes and lead to significant overall differences in the direction of bias between the two trade strategies.

Consider first the built-in tendencies under import substitution. Although in principle one could encourage domestic production of an import-competing good with subsidies, in practice encouragement to domestic production is usually given by imposing either tariffs or quantitative restrictions (in the extreme case, import prohibitions) on imports of the commodity. The very act of protecting the domestic industry tends to discourage exports in several ways. First, exporters using the protected commodity as an input to their production process are disadvantaged.⁴ Second, it should be noted that the resources employed in the protected industry would otherwise have been employed elsewhere and that, in that sense, protection of import-competing sectors is automatically discrimination against all other sectors, including potential exporting ones. Third, establishment of a new domestic industry usually requires imported capital goods, and in early stages of its development the value of capital goods imported is likely to exceed the international value added of import-substituting production.⁵ This tends to put pressure on the foreign exchange markets that could be offset by currency realignment. However, under import substitution regimes, there is resistance to currency depreciation (in order to facilitate the needed capital goods imports, in part), and usually additional quantitative restrictions are employed to reduce the size of the balance of payments deficit, further increasing bias toward import substitution.

None of these tendencies constitutes an inexorable and inevitable outcome of import substitution regimes. In principle, a country could decide to protect, say, the metal products sector while simultaneously encouraging the export of petrochemicals. In practice such an outcome is

seldom observed (and, if it is possible at all, it is probably possible only with very moderate levels of encouragement for both sets of activities).⁶

Consider now the sorts of tendencies that are likely to arise under an export promotion strategy. Tariffs cannot induce production for the international market: it requires a production (or an export) subsidy or a realistic exchange rate. Since subsidies are costly to government budgets, and since their heights are clearly visible, excessively high subsidies tend to be politically unpalatable, and there is a tendency to maintain a realistic exchange rate as an alternative (see section 3.1.3.2 for further discussion). That in itself encourages exports (and reduces the “balance of payments” motive for tariff protection), but it limits the degree to which there is a differential incentive for exportable production. Simultaneously, producers in exporting industries must be permitted to purchase their needed intermediate goods and raw materials at world prices (and with world quality) if they are to be competitive. This implies some pressure on the authorities to reduce or remove barriers to imports, which in turn may tend to encourage other producers to enter the export market. Thus a genuine export promotion policy⁷ must be accompanied by the maintenance of a fairly open and liberalized trade regime, which tends to be self-reinforcing.

For these reasons it makes sense to talk about export promotion and import substitution trade policies despite the fact that particular aspects of these strategies differ from country to country and that the degree of bias can vary significantly between countries and, within the same country, between industries.

3.1.2 The Trade Strategies of the Countries Included in the Project

Before turning to other properties of import substitution and export promotion trade regimes, it is instructive to examine one or two salient characteristics of the trade regimes used by the countries covered in the project. Table 3.1 gives data that provide a preliminary glimpse of some aspects of the countries’ experience. Estimates are given of the mean effective rate of protection (ERP)⁸ for all manufacturing activities for sale in the home market for the years indicated.⁹ In column 2 the abbreviations give a rough idea of the trade strategy in force at the time the ERP estimates pertain to. As will be seen below (table 3.4), several countries altered trade strategies at one or more times, and their experience permits many inferences about the trade strategies–employment relation. For the periods covered by the ERP estimates, only two countries, the Ivory Coast and South Korea, were following generally export-oriented trade strategies. Several others, including Brazil in 1967 and Colombia in 1969, were in the process of transition to a more outer-oriented set of policies. After 1972, Tunisia also began altering her trade strategy.

Table 3.1 Indicators of Trade Strategy, Various Countries

Country	Period (1)	Trade Strategy (2)	Average ERP for Manufac- turing (3)	Range of ERPs (4)
Brazil	1958	IS	106	17 to 502
	1963	IS	184	60 to 687
	1967	MIS	63	4 to 252
Chile	1967	IS	175 ^a	-23 to 1,140
Colombia	1969	MIS	19	-8 to 140
Indonesia	1971	MIS	33 ^b	-19 to 5,400
Ivory Coast	1973	EP	41 ^f	-25 to 278
Pakistan	1963-64	IS	356 ^c	-6 to 595
	1970-71	IS	200 ^c	36 to 595
South Korea	1968	EP	-1	-15 to 82 ^c
Thailand	1973	MIS	27 ^d	-43 to 236
Tunisia	1972	IS	250	1 to 737
Uruguay	1965	IS	384	17 to 1,014

Note: EP = export promotion; IS = import substitution; MIS = moderate import substitution.

^aData from Corbo and Meller 1981, table 3.9. Average ERP is an unweighted average for all manufacturing sectors.

^bData from Pitt 1981, table 5.A.1. Average ERP is an unweighted average of those rates, excluding manufacturing sectors with negative IVA and canning and preserving of fruits and vegetables (which had an ERP of 5,400).

^cCalculated from Guisinger 1981, table 7.9. Averages are simple and unweighted, and for 1963-64 they exclude sectors with negative IVA.

^dSimple average calculated as the mean of realized ERPs from Akrasanee 1981, tables 9.8 and 9.9. ERPs for domestic sale from Akrasanee 1981, table 9.10.

^eData from Westphal and Kim 1977, table 2-A.

^fData from Monson 1978, appendix table IV B-C (canned coffee and flour are excluded from the mean and the range).

As is evident from column 3, the average effective rate of protection under import substitution was generally fairly high. While some portion of this protection may have served as a partial offset to exchange rate overvaluation, the data in column 4 indicate that high average rates of effective protection were generally accompanied by very wide ranges of individual rates. While the data are not directly comparable between countries (in part because of different degrees of currency overvaluation and in part because data were presented at different levels of disaggrega-

tion—and greater disaggregation generally implies more extremes among observations), it is nonetheless highly suggestive that mean protection given manufacturing sector producers exceeded 100 percent in all countries for the year indicated except for Brazil in 1967 (in the process of transition, as already mentioned), Colombia (also in transition), the Ivory Coast, South Korea (both export-oriented countries), and Thailand. Except for Thailand, these countries correspond to the group that eventually eschewed import substitution. Interestingly enough, lower mean rates of effective protection also appear generally to have been accompanied by a relatively narrower range of ERP rates in individual industries and sectors.

The structure of incentives needs to be examined from another angle. A large number of countries provide export incentives as well as tariff protection, so that the same commodity receives a different return when sold abroad than when sold domestically, even if the sale price abroad, translated at the official exchange rate, is the same as the sales price in the domestic market. This reflects the fact that such instruments as tax benefits and direct subsidies per unit of foreign sales are used as export incentives. Carvalho and Haddad estimated for Brazil that it required only 68 percent of the sales price abroad to compensate the firm for the loss of a sale domestically, once tax incentives and other export inducements were taken into account.

Other countries for which there were export incentives that discriminated at least to some extent by place of sale were Argentina, Chile, South Korea, Thailand, and Uruguay. Data on the differences between effective rates of protection for sales in the domestic market and abroad are given in table 3.2. As can be seen, South Korea's export industries received their encouragement as they exported: they received incentives worth about 5 percent of value added when selling abroad and were subject to disincentives when selling domestically equivalent to a negative rate of effective protection of 18 percent.

By contrast with South Korea, Argentina, Chile, and Thailand provided most of their incentives in the form of tariff protection: there were few offsetting export subsidies, as is reflected in the low rates of effective protection for export. For Uruguay as well, discrimination took a number of forms. Data provided by Bension and Caumont (1981) serve primarily to confirm that, despite other incentives, the trade regime continued to be most powerful: in virtually every line of activity, including those where Uruguay presumably has most export potential, the incentives to firms to sell in the domestic market substantially exceeded the incentives to sell on the world market. The only possible exception was leather products, and for that category data were not judged reliable. For Uruguay, as for Argentina and Chile, the bias toward import substitution and sale on the home market was extremely pronounced.

Table 3.2 Effective Rates of Protection, Domestic and Foreign Markets

	Home Market	Export Market
Argentina 1969		
Agriculture	-13	-13
Mining	33	-12
Manufacturing	111	-40
Chile 1967		
Exportables	37	0
Importables	267	2
Noncompeting imports	155	6
Total	233	4
South Korea 1968		
Agriculture	19	-16
Mining	3	-1
Manufacturing		
Export industries	-18	5
Import-competing	93	-9
Thailand 1973		
Tapioca flour	-30	-30
Veneer and plywood	43	0
Cordage and rope	26	0
Noncotton textile fabrics	64	0
Cotton textile fabrics	8	0
Uruguay 1968		
Food products	150	25
Footwear	892	67
Leather products	20	24
Chemicals	182	43
Metal products	463	37
Electrical machinery	591	45

Sources: Argentina, Nogues 1980, chap. 3, table 2.2; Chile, Corbo and Meller 1981, table 3.10; South Korea, Hong 1981, table 8.9; Thailand, Akrasanee 1981, table 9.10; Uruguay, Bension and Caumont 1981, table 11.7.

Table 3.3 provides yet another way of characterizing the structure of effective protection, this time by end-use category. A hallmark of import substitution regimes seems to be that protection is granted first to industries producing consumer goods. This is reflected in the extremely high level of protection granted to those industries in Brazil in 1958 and in Pakistan in 1970-71. Were comparable data available for Chile and Uruguay, they would no doubt show a similarly high level.¹⁰ South Korea's low overall level of protection, either positive or negative, stands out clearly from the data. Likewise, the Brazilian reforms of the mid-1960s and the fairly moderate nature of Colombia's incentive structure by the late 1960s are reflected in the moderate levels of protection reported

Table 3.3 Effective Protection by End-Use Category

Country	Period	Consumer Goods	Intermediate Goods	Capital Goods
Argentina	1969	96	127	162
Brazil	1958	242	65	53
	1967	66	39	52
Colombia	1969	33	15	80
Pakistan	1970-71	277	158	200
South Korea	1969			
	Export	-2	9	-9
	Domestic sale	16	0	56
Thailand	1973	19	25	77
Tunisia	1969	74	29	104

Sources: Argentina, Nogues 1980, chap. 3, table 2.2; Brazil, Carvalho and Haddad 1981, table 2.9; Colombia, Thoumi 1981, table 4.4; Pakistan, Guisinger 1981, table 7.9; South Korea, Westphal and Kim 1977, tables 2.A and 2.B; Thailand, Akrasanee 1981, table 9.8; Tunisia, Nabli 1981, table 10.6.

Note: For Argentina, Colombia, South Korea, and Thailand, the numbers are simple averages: of consumer nondurables and consumer durables for consumer goods; of intermediate goods I and II for intermediate goods; of transport equipment and machinery and equipment for capital goods.

for those countries and time periods. Tunisia's levels of protection seem to be subject to a much wider margin of error than most of the others. The ones reproduced here are significantly lower than an alternative set of estimates and nonetheless reflect high levels of protection to both consumer goods and capital goods producers.

Regardless of which indicator of effective protection is used, it seems evident that the differentials in incentives between industries are much larger under import substitution than under export promotion. These incentives are bound to have important influences on the structure of production. While effective rates of production can be high both because of the cost structure of an industry and because of the monopoly power that the trade regime may accord to domestic producers, there can be little doubt that many of the industries protected under import substitution would not, at least with their existing cost structure, be viable under an alternative trade regime. Moreover, given the heavy disincentive to exporting that characterizes some of the more extreme import substitution regimes, import substitution trade strategies must have discouraged the development and expansion of some of the potential export industries. It is left to chapter 5 to report the differences in labor coefficients, and therefore in demand for labor and employment, that are likely to

arise from the resulting differences in the commodity composition of output.

3.1.3 Policy Instruments Employed under Alternative Trade Strategies

In principle, the choice of policy instruments for encouraging new industry and rapid economic growth should be largely independent of decisions regarding type of trade policy. Indeed, in the optimal resource-allocation world defined above, one would anticipate that the sorts of incentives offered for establishment and expansion would be indistinguishable between industries whose output competed with imports and industries whose output was destined for export. In practice, however, policy instruments differ markedly. Partly because some trade policy instruments (e.g., tariffs) inherently discriminate between places of sale for the same commodity, and partly for other reasons, the two types of trade strategies generally imply a very different mix of policy instruments.

There are a variety of reasons why understanding these instruments is important. First, knowledge of their magnitude is often a crucial first step in empirical estimates of the incentives offered under a trade and industrialization strategy. Second, the types of instruments employed have a direct influence on the choice of industries that are started and also on factor proportions in individual firms and sectors. Thus there are direct links between the choice of instrument and the implied labor coefficients. Finally, a question of some importance is whether observed differences in labor utilization under alternative trade strategies are inherently the outcome of the strategy choice or whether instead they may not reflect the particular selection of instruments used to achieve that strategy. I shall start by reviewing a “typical” set of instruments employed under an import substitution strategy and then contrast it with the sorts of policies generally adopted to encourage export industries.¹¹

3.1.3.1 Policy Instruments under Import Substitutions

For a variety of reasons (including the important fact that the authorities necessarily have greater ability to affect decisions by domestic producers when the economy is relatively less open), measures to promote import substitution tend to consist of a mixture of direct quantitative controls over various aspects of economic activity and of pricing measures.

Quantitative restrictions can be administered in a variety of ways, some more restrictive than others. As Bhagwati (1978) has documented, negative lists of goods that may not be imported tend to be less restrictive than positive lists of items that may be imported; regimes in which there are

some items for which licensing approval is automatic and for which bureaucratic delays are avoided tend to be less restrictive than regimes where all licensing applications are individually scrutinized; licensing procedures (and the intervals between granting applications) can also affect the working of the system.

Quantitative restrictions interact with overvalued exchange rates in a variety of ways. That there is excess demand for foreign exchange tends to create incentives for smuggling and evasion of the regime (including over- and underinvoicing), which in turn usually induces the authorities to implement still further regulations aimed at containing illegal and extralegal activities. Those regulations can be exceedingly complex and time-consuming, increasing the restrictiveness of quantitative controls beyond their initially intended levels.

Partly because the exchange rate tends to become increasingly overvalued, and partly for other reasons, there is also a tendency under import substitution to employ a variety of pricing measures to contain excess demand for imports. In addition to tariffs, "handling charges," "port duties," "stamp taxes," and a number of other quasi-tariff measures have been imposed.¹² Although they apparently rely on price, they may sometimes be as prohibitive as any import prohibition. An extreme example, cited by Behrman (1976), is the Chilean practice of imposing requirements in times of foreign exchange difficulties that import license applications be accompanied by a prior deposit equal to 10,000 percent of the value of the license! In Brazil, a law of similars provided that firms importing goods that could be obtained domestically would be ineligible to receive government contracts.

The combined use of quantitative restrictions and quasi-pricing measures can provide almost any industry with sufficient protection to enable it to produce profitably for the domestic market, almost regardless of the degree to which its relative costs exceed those obtaining internationally.¹³ Combining use of incentive measures such as prohibitive protection with import licensing can give the government virtually complete control over choice of industries: the fact that many, if not most, capital goods and many intermediate goods are imported means that the authorities can, through import licensing, affect or control the allocation of capital among industries.¹⁴

Thus the hallmarks of an import substitution regime generally include: high levels of protection to a number of industries, with a very wide range of rates of effective protection; fairly detailed and complex quantitative controls and bureaucratic regulations, both over imports directly and often over a number of areas of domestic economic activity (sometimes through the import regime); and an overvalued exchange rate with associated disincentives for exporting.

3.1.3.2 *Policy Instruments under Export Promotion*

For policymakers committed to encouraging industrial development and growth through exporting, most of the instruments employed under import substitution are either totally infeasible or demonstrably incompatible with promoting exports. By definition, tariffs cannot be used as an instrument of export promotion, and even tariff rebates do no more than offset the disincentive to export that imposing a tariff would otherwise create.

Likewise, quantitative restrictions upon imports are almost entirely incompatible with export promotion: not only is it administratively extremely difficult to compensate exporters for the excess of domestic over foreign price in the presence of quantitative restrictions, but a genuine export promotion drive must permit exporters ready access to the same quality and variety of inputs that their foreign competitors have.

Furthermore, both because of the visible cost of export subsidies and because of the incompatibility of quantitative controls with export promotion, an overvalued exchange rate is seldom encountered for any substantial period of time among export promotion countries.¹⁵ In South Korea, for example, in the early 1960s export subsidies were introduced between alterations in the exchange rate. But these subsidies decreased in importance over time as the government learned the cost of maintaining them. In 1964 the official exchange rate was 214 won per dollar, while export subsidies were 67 won per dollar, adding about 30 percent to the effective export exchange rate over the official exchange rate. By the early 1970s, export inducements beyond the official rate consisted largely of internal tax exemptions, customs duty exemptions, and interest rate subsidies, none of which had the same direct effect on payments by the government. Even then, the total value per dollar of these inducements had increased only to 105 won per dollar, compared with an official exchange rate of 392 in 1972. Thereafter, the proportionate and absolute value of subsidies declined still further, reaching 81 won per dollar contrasted with an official rate of 485 per dollar in 1975 (see Krueger 1979, tables 22 and 32).

Not only does export promotion have to rely upon pricing incentives rather than quantitative controls, but there are significant and visible constraints on the degree to which incentives can be differentiated among exporting activities,¹⁶ as a substitute for a realistic exchange rate. The major incentives for export promotion found in other countries are similar to those for South Korea: export subsidies (usually expressed as a rate of local currency paid beyond the official exchange rate per unit of foreign currency sales); favorable treatment for exporters with regard to tax liabilities; and availability of credit at below-market rates of interest.^{17, 18} In Brazil, for example, domestic tax exemptions were the main instruments used to encourage exports above a realistic (sliding

peg) exchange rate policy. Carvalho and Haddad (1981) estimate that selling a product domestically yielded about the same after-tax profit to a firm as selling the item abroad for about two-thirds the price. The important point is that these incentives are provided to anyone who exports. They provide a uniform degree of bias among exporting activities. By contrast, a set of prohibitive tariffs usually entails highly varied protective content for different activities (with a very low, if not negative, degree of effective protection for exports).

The question to which we now turn is what differences there have been in growth performance under the two strategies. Later chapters will consider the effect of each set of policy instruments upon the commodity composition of output and the factor proportions in individual industries.

3.2 Relationship of Trade Strategies to Growth Rates

3.2.1 Growth Rates under Import Substitution and Export Promotion

The determinants of a country's rate of economic growth are numerous, and there is no universally agreed-upon method of quantifying the contribution of any particular factor to the growth rate.¹⁹ This is especially the case when it comes to identifying the role of a variable that may, in part, affect the efficiency of resource allocation. Consider, for example, two economies that both have the same rate of capital formation and initially equal output. In one economy, new capital is employed in less-than-optimal uses, with a consequently high capital/output ratio and a low rate of growth. In the other economy, capital is optimally allocated, with the consequence that the capital/output ratio is considerably lower and the rate of economic growth higher. Without detailed and comparable data for the two countries, it would be difficult, if not impossible, to identify the role of superior resource allocation in affecting the rates of economic growth: capital formation would, in the absence of any other factor contributing to growth, account for 100 percent of the growth in each country. This difficulty illustrates one of the problems of attempting to associate alternative trade strategies with growth rates: the trade strategy itself is but one influence on the effectiveness with which other factors of production are employed.

The matter is further confounded by the consideration that, even in theory, the role of trade, and the optimal fraction of trade in GNP, will differ across countries. South Korea, with her very poor natural resource endowment, for example, undoubtedly has a higher optimal share of exports and imports in GNP than does, say, Turkey. It is therefore difficult, if not impossible, to separate export growth, and its contribution to overall economic growth, into that component which is a result of

starting from a suboptimal role of trade in GNP and that component which is a consequence of “normal” export growth.

Nonetheless, past research results are highly suggestive of an association between trade strategies and growth rates, whether the evidence cited is impressionistic based on the experiences of countries that have altered their trade strategies, or whether the evidence is estimation of the statistical relationship of growth rates with explanatory variables, including the behavior of exports. In this section, some of the evidence is briefly summarized. Thereafter the growth rates and trade strategies of the countries covered in the project are reviewed. Finally, possible reasons for the difference in growth performance are discussed.

3.2.1.1 Results from Prior Research

There are four cross-country estimates of the role of exports in growth. Not surprisingly, in light of the lack of a theoretical underpinning, the estimates differ in techniques used, as well as in countries covered and period of observation. What is perhaps surprising and reassuring is that, despite these differences, the conclusions arising from the four studies are very similar.

The first estimate, by Michalopoulos and Jay (1973), essentially posited an aggregate neoclassical production function with domestic capital, foreign capital, and labor as inputs. They fitted it with data for thirty-nine developing countries for the period covering the 1960s. Having done so, they reestimated including exports as an additional independent variable. Michalopoulos and Jay found that exports were highly significant, and significantly improved the fit of the equation, concluding:

The growth rate of GNP and the growth rate of exports are highly correlated with each other. Export growth rates explain a significant portion of the variance in income growth rates which remain unexplained by the growth in primary inputs. This empirical relationship is of basic importance to our findings. [Michalopoulos and Jay 1973, p. 22]

The second study was undertaken by Michaely (1977). He estimated the relationship between the change in the proportion of exports to GNP (to eliminate the obvious bias resulting from the fact that an increase of one unit of exports is an increase of one unit in GNP) and the rate of change in GNP for forty-one countries over the period 1950 to 1973. He found a coefficient of Spearman rank correlation between the two of .38, which was significant at the 1 percent level, although there was no correlation between the growth rate and the mean proportion of exports in GNP.²⁰

The third estimate was for the countries covered in the NBER project on foreign trade regimes and economic development. Using data for the

ten countries over the period roughly covering 1953 to 1972 (depending on data availability for countries' starting and ending points), observations on GNP across countries were fitted on a pooled time-series-cross-section basis. Thus the GNP growth rate for each country was regressed against a time trend in that country's growth and the rate of growth for its exports. A separate coefficient for the time trend was estimated for each country, but the coefficient expressing the contribution of export growth to GNP growth was common for all countries. For the countries covered, an increase in the rate of growth of export earnings of one percentage point annually was associated with an increase in the rate of growth of GNP of about 0.1 percentage point (see Krueger 1978, chap. 11, for details). If this estimate implied causation (which, for econometric reasons as well as because of the analytical difficulties discussed above, it does not), it would imply that the South Korean growth rate in the late 1960s was about four percentage points higher than it would have been had export earnings been stagnant. To be sure, such an inference is far more precise than either the data or the theory warrant. Nonetheless, the results were, once again, strongly indicative of an important link between export growth and the overall growth rate.

Finally, Balassa (1978*b*) took data for eleven countries (many of them overlapping the countries covered by Krueger 1978) for 1960 to 1973 and reestimated the Michaely relations, incorporating also the Michalopoulos-Jay factors of production. His results generally confirm those of both Michaely and Michalopoulos-Jay, and he noted the similarity of his results to the Krueger results. According to his estimates (based on actual factor accumulation paths),

the increase in Korea's GNP would have been 37 percent smaller if its export growth rate equalled the average for all countries concerned. The corresponding proportion is 25 percent for Taiwan. At the other extreme, in Chile, India, and Mexico, respectively, the increase in GNP would have been 14, 12 and 8 percent greater if those countries had average export growth rates. [p. 187]

Balassa noted, as did Krueger, that the results obtained, when applied to individual countries, underestimated the effects of export growth on GNP. Despite that, the results are further evidence that the benefits to be derived from an export promotion exceed, perhaps substantially, those from an import substitution trade strategy.

3.2.1.2 Growth Rates in the Project Countries

Table 3.4 gives an indication of each of the ten countries' trade strategies and rates of growth of export earnings and of real GDP. Although the degree of bias of the trade regime has changed from time to time in all countries, some have experienced a much greater degree of

Table 3.4 Trade Strategy, Export Growth, and Real GDP Growth, Project Countries

Country	Period	Trade Strategy (1)	Average Annual Rate of Growth	
			Export Earnings (2)	Real GDP (3)
Brazil	1955-60	IS	-2.3	6.9
	1960-65	IS	4.6	4.2
	1965-70	EP	28.2	7.6
	1970-76	EP	24.3	10.6
Chile	1960-70	IS	9.7	4.2
Colombia	1955-65	IS	-.8	4.6
	1960-65	IS	-1.9	1.9
	1970-76	EP	16.9	6.5
Indonesia	1965-73	MIS	18.9	6.8
Ivory Coast	1960-72	EP	11.2	7.8
Pakistan	1953-60	IS	-1.5	3.5 ^a
	1960-70	IS	6.2	6.8
South Korea	1953-60	IS	-6.1	5.2
	1960-70	EP	40.2	8.5
	1970-76	EP	43.9	10.3
Thailand	1960-70	MIS	5.5	8.2
	1970-76	MIS	26.6	6.5
Tunisia	1960-70	IS	6.8	4.6
	1970-76	MIS	23.4	9.4
Uruguay	1955-70	IS	1.6	.7

Sources: Trade strategy: based upon evidence in country studies (Krueger et al. 1981). Export growth rates: computed from data in May 1977 *International Financial Statistics*. GDP growth rates: International Bank for Reconstruction and Development, *World Development Report 1978* and *World Tables 1976*; United Nations *Yearbook of National Accounts Statistics*, vol. 2, for 1971 and 1969.

Notes: EP = export promotion; IS = import substitution; MIS = moderate import substitution.

^aGNP growth rate is for 1950 to 1960.

stability in their trade orientation than others. Chile, for example, consistently followed import substitution policies until 1974, and fluctuations in the degree of bias toward import substitution were associated primarily with fluctuations in the price of copper (and therefore in export earnings) and with balance of payments crises. Uruguay, too, was consistently strongly biased toward import substitution and has only recently moved toward a more export-oriented policy. For purposes of analysis in the

period covered, Uruguay is an import substitution country. The Ivory Coast has also followed a fairly consistent policy over the entire period since independence, but it has had the opposite bias—toward export promotion. Monson notes that in 1974–75 some policies were being adopted that shifted the regime toward somewhat greater encouragement of import substitution industries. Nonetheless, his data are for the earlier export promotion period.

Contrasted with those cases of relatively unaltered trade policy are the countries that radically changed their orientation. As already mentioned, Brazil, South Korea, and Colombia are in that group, since all three switched away from import substitution and toward export promotion. In addition, Indonesia should probably be regarded as a country with an abrupt change, in that the period before 1965 was one of extreme restrictiveness of the system. The inflation rate was more than 100 percent annually, and export earnings were lagging badly. Pitt focuses on the period since 1965, during which Indonesia was moving away from exchange controls toward full currency convertibility. Despite easing exchange controls, Indonesia protected a number of domestic industries. As a consequence, her regime since 1965 is best characterized as “moderate” in its bias toward import substitution.

Tunisia had a fairly strong bias in her trade and payments regime toward import substitution in the 1960s but in the early 1970s began to change incentives toward greater encouragement of exports. However, the period covered by Nabli centers upon the early 1970s. At that time incentives for import substitution remained very strong contrasted with those for exporting. For purposes of analyzing the trade strategies–employment relation, therefore, Tunisia should also be regarded as oriented toward import substitution.

Thailand represents a case very similar to Tunisia, except that the bias toward import substitution was somewhat less than in Tunisia. In the 1960s, the Thai regime appears to have been moderately biased toward import substitution. By the early 1970s, measures were being taken that decreased the magnitude of the bias; Akrasanee’s data pertain to the period 1971–73, during which it is probable that the moderate incentive structure of the 1960s was still the dominant influence on the commodity composition of output and pattern of trade. After 1973 government intervention increased and more measures were introduced both to promote manufactured exports and to foster further import substitution.

Finally, Pakistan represents a country moving away from an extreme bias toward import substitution, which was the case in the 1950s, toward a somewhat less unbalanced incentive structure in the 1960s. Guisinger characterizes Pakistan of the 1960s as having a much more liberalized regime, with considerably more balanced incentives, than was true in the 1950s, since the export bonus scheme and related policy moves in the late

1950s removed some of the discrimination against exports that had previously existed in the regime. Nonetheless, as can be seen from table 3.4, bias toward import substitution was still substantial.²¹

Column 2 of table 3.4 gives the rates of growth of export earnings for the periods indicated. It is readily apparent that shifting to export promotion generally resulted in much-improved performance with regard to exports. The shifts in Brazil, Colombia, and South Korea were all highly dramatic, but Pakistan's improved rate of growth of export earnings was also important for that country. The large positive rate of growth of export earnings for Indonesia also represented an abrupt departure from the earlier stagnation experienced under Sukarno. Tunisia's increased rate of growth of export earnings over the period 1970–76 reflects rapid growth of petroleum products, other primary products (especially phosphates), and manufactured exports. Because oil price increases dominate Indonesia's recent export earnings statistics, the Indonesian performance was computed over the period ending in 1973.

The final column of table 3.4 gives the growth rates of real GDP for the same periods as those covered by columns 1 and 2. The overall impression is similar to the results reviewed in section 3.2.1.1. As can be seen, there appears to be a significant association between rates of growth of GDP and of exports, although it is by no means a perfect one. Brazil's export earnings were actually declining between 1955 and 1960, while real GDP grew at an average annual rate of almost 7 percent, and a similar contrast can be seen in the South Korean data for 1953–60. Conversely, Chile's relatively high rate of growth of export earnings in the 1960s was not accompanied by rapid growth of real GDP.²² Colombia is also a partial exception, in that the rate of growth of exports reversed from a negative 0.8 percent to a positive 17 percent annually, while the increase in real GDP was about two percentage points annually. To be sure, that represented a doubling in the rate of growth of per capita income, but it was far less striking than the change in the Brazilian or South Korean growth rates following their reversals of policy and of trends in export growth.

3.2.2 Reasons for Differences in Performance

An important question is why there are such differences in growth performance. The simple theory of optimal resource allocation is probably not enough, and there is no single, universally agreed-upon diagnosis of the reasons for the difference and the quantitative importance of each factor contributing to differences in growth rates. What instead seems to be possible is an analysis of what has happened under import substitution and under export promotion, which points to some of the factors that must have contributed to the differences in growth rates.

3.2.2.1 Import Substitution

At a descriptive level, the proximate reasons why growth rates tapered off can be traced. There are three important factors. The first concerns the increasing restrictiveness of the trade and payments regime under import substitution; the second is the relatively rapid exhaustion of opportunities for “easy” import substitution; and the third relates to the tendency for import substitution strategies to be administered by detailed and complex quantitative restrictions. Each of these is discussed in turn. Thereafter the descriptive factors are related to the conventional concepts of economic analysis.

Turning to the first factor, in most countries that adopted the import substitution strategy the growth rate of export earnings (and earnings of foreign exchange from other sources) diminished once the strategy had been adopted. In part this diminution in the foreign exchange receipts was the conscious outcome of the import substitution plan: dependence on trade was intended to diminish. However, the growth of export and other foreign exchange earnings was generally slower than anticipated (probably for the reasons discussed in section 3.1.3.1).

Simultaneously with a declining rate of growth of foreign exchange availability, the growth in demand for imports and foreign services should have decelerated, but instead it tended to accelerate. The growing gap between growth in demand and growth in supply of foreign exchange under import substitution caused severe difficulties in many countries.

Meanwhile, virtually every new import substitution industry, and even every expansion of existing import substitution industries, required imports of raw materials, intermediate goods, and machinery and equipment. Policymakers were especially reluctant to deny permission for imports of these goods, since they feared that reducing capital goods imports would reduce the growth rate and that reducing intermediate goods and raw material imports would adversely affect output and employment. “Dependence” upon imports for final consumption goods was replaced with “dependence” upon imports not only for growth via the availability of capital goods but also for employment and output, since the newly established factories could not produce without needed intermediate goods and raw materials.

Structurally, therefore, the level of employment and output and the rate of capital formation within the import substitution sectors became dependent upon the availability of foreign exchange. The import substitution strategy ironically appeared to result in an economy even more dependent upon trade than had been the case under the earlier pattern of primary commodity specialization, while simultaneously discouraging the growth of foreign exchange earnings.

In many import substitution countries, increased dependence upon imports and laggard foreign exchange earnings were reflected in periodic

balance of payments crises.²³ These crises, in turn, were associated with intervals during which import licensing became particularly stringent, if not prohibitive. The authorities had run down foreign exchange reserves and borrowed from abroad to the maximum extent in order to maintain the growth rate. Finally, however, resources were exhausted. The period during which import licensing had to be slowed generally was associated with a period of slow growth, if not an outright reduction in output. Proximately at least, foreign exchange was the binding constraint upon the growth rate, and models of “foreign exchange shortage,” most notably the two-gap model (see Chenery and Strout 1966), characterized import substitution economies dependent upon imports for their intermediate goods and levels of investment, while simultaneously experiencing slow growth of exports. Very often these periods of severe import restriction ended with a devaluation and stabilization program designed to make exporting more attractive, at least temporarily.²⁴

The second factor contributing to the slowing down of growth rates under import substitution was the exhaustion of the “easy” import substitution opportunities. Even in large countries with sizable domestic markets, such as Brazil, the domestic market was not large enough to support the development of industries at economic scales of production after import substitution had taken place in the industries that catered to large numbers of relatively poor consumers. After import substitution in industries such as textiles and shoes, where imports were sizable and outputs fairly standard, it appears that additional industries were generally established at uneconomically small size. Once “easy” import substitution was over, the incremental capital/output ratio in the industrial sector rose sharply, and the “leading growth sector” experienced a diminution in its growth rate.²⁵

The third reason for the tapering off of growth rates was the complex nature of the instrument mix under import substitution. Bhagwati (1978) has carefully delineated the reasons why controls tended to multiply: the obviously imperfect across-the-board allocation techniques resulted in ever-finer classifications, as imports were allocated by category of commodity being imported, by type of user of the commodity domestically, by source of foreign exchange, and even by type of use—capital good, intermediate good, or raw material. The proliferation of the control network and its complexity seems to have been a common feature of import substitution regimes and is certainly a characteristic that must have had harmful consequences.

Moving from the descriptive to the analytical level, also, one can link these three tendencies with standard constructs of economic theory. One can fairly well pinpoint some of the things that went wrong, although quantification of their contribution to the outcome is difficult. There are both static and dynamic elements.

In static terms, import substitution proceeds only with a high, and probably increasing, variance among activities in domestic resource costs. As already seen, rates of effective protection of several hundred percent are not infrequent. Instances where the imports for producing domestically exceed the import value of the final product are not unheard of. High-cost, low-quality output is visible to everyone. It may be that this phenomenon is only an economist's characterization of the "exhaustion of easy import substitution," or it may be something more fundamental. Either way, there is a tendency in almost all cases for import substitution to become "indiscriminate," with attendant high costs and low growth rates. Once consumer goods are virtually removed from the eligible import list, each new import substitute implies increasing costs for some domestic consumer goods industry and also for whatever industries might have had export potential. That, in turn, implies higher domestic prices and a lower rate of growth of domestic consumption than would occur if prices did not rise. An almost-universal pattern is the overestimation of the probable size of the domestic market, as entrepreneurs underestimate the extent to which demand is price responsive.

The "indiscriminate," high-cost pattern of import substitution may or may not be inevitable. In large part it arises because policymakers, confronted with "foreign exchange shortage" as described above, understandably want to allocate foreign exchange to capital goods and inputs for existing plants. Incentives are almost always provided to begin domestic production of anything that can be produced; an extremely powerful incentive (and perhaps a necessary one for some high-cost industries that would have little or no hope of becoming profitable even in the face of high tariff walls) is the willingness of the authorities in most import substitution countries to prohibit the importation of goods competing with domestic output. Once a domestic plant is established, the producer is secure in that competing imports are not permitted.

In addition to the high variance in incentives and in domestic resource costs that result from import licensing, quantitative restrictions and their administration impose other costs. In particular, the licensing authorities are caught in a dilemma: if licenses are "fairly" administered, all have to be given equal access to them. Rules are set up for "fair" allocation of valuable licenses. Those rules, in turn, establish new rigidities in the system. Some of these are dynamic and are discussed below. Others, however, affect static resource allocation. For example, in many countries licenses are in one way or another prorated across applicants among existing firms. Most variants of this procedure implicitly grant each producer licenses in proportion to his share of the market; not only are there two or few firms for competition, but each producer is really provided with assurance that his share is fixed. This phenomenon is undoubtedly at least partly responsible for the obvious low quality of many of the

products produced in import substitution industries, and also for high and rising capital/labor ratios with falling rates of capacity utilization.

The second analytical component has to do with the sorts of market structures created by import substitution policies. The existence of import licensing, together with the fact that firms require imports of intermediate goods, often results in rigid market shares for individual firms under import substitution. Indeed, when the quantity of an imported input stands in fixed proportion to output, even the industry's total sales are rigidly fixed. Profitable firms generally expand little, if at all, more rapidly than others, in part because they are unable to increase their share of import licenses (and thus have little incentive to reduce the price of their output). The small size of the domestic market, which was already seen to tend to lead to firms of smaller than economic size, also implies that the number of firms in any particular industry will be small.

Indeed, policymakers are caught on the horns of a dilemma even if they perceive the difficulties that the absence of competition can create: if there are enough firms to permit a healthy degree of competition, it is highly likely that the size of the individual firms will be so small that industry costs will be high on that account. If, on the other hand, monopoly is permitted in order to avoid uneconomically small firms, a competitive spur to higher productivity will be lacking. Both this consideration and the mechanics of import licensing tend to discourage the establishment of new firms and plants in existing industries: the authorities are naturally reluctant to permit scarce foreign exchange to be used to import capital goods to produce a commodity where domestic production is already believed to be adequate to meet domestic demand (and where indeed excess capacity may exist). The absence of competition or the small size of domestic firms, or both, leads to X-inefficiency and relatively high capital/labor ratios, again tending to reduce growth rates.

Turning from static to dynamic considerations, additional problems arise with an import substitution strategy over time. Stated in its most general way, that quantitative restrictions regulate trade and payments leads to a built-in tendency for relative prices and incentives to diverge from their optimum over time. Currencies tend to become increasingly overvalued, with ever fewer incentives for exporters and greater and greater rewards for those able to obtain import licenses.

Simultaneously, that competition is fairly well precluded for the reasons indicated above means that producers are not under strong pressures to increase productivity, improve quality, or otherwise become more efficient over time. Indeed, not only are incentives absent for individual firms, but the necessity for "fairness" on the part of the authorities implies that the sorts of mechanisms that operate in market economies to enable the more productive firm to grow more rapidly are inhibited in the import substitution countries. Successful, low-cost pro-

ducers are generally awarded their share of import licenses on the same basis as are less successful, high-cost producers. Most of the competitive mechanisms for weeding out the less efficient producers (and therefore raising average industry productivity over time) are obviated by the regulations and incentives established in support of the import substitution strategy.

3.2.2.2 Export Promotion

If one turns to the probable reasons why exports have generated generally higher growth rates than import substitutions, one finds they are of two kinds. On one hand, there is the fact that export promotion, by its nature, avoids some of the costs of the import substitution strategy. On the other hand, there are identifiable gains in output for given inputs that are attainable under export promotion. Identification of these elements is not sufficient to permit quantitative estimates of their relative importance. It does, however, increase understanding of the contrasts between the two industrialization strategies.

Perhaps the most important lesson that has been learned from the experience of the successful exporting countries is that identification of industrialization and the development of new industries with the import substitution policy is fundamentally mistaken. For, in all the countries that shifted toward export promotion, a striking feature of their success was the very rapid growth of manufactured exports, and often of exports of newly produced products. While it is obvious that a firm starting to produce a product previously not manufactured in a country is very likely to sell to the domestic market first simply because of transport cost differentials, experience demonstrates that this is not inevitable. In fact, one major way of starting new industries and new product lines in the exporting countries has been for firms in developed countries to subcontract with foreign suppliers to fabricate particular parts and components. In some instances the foreign buyer provides technical specifications, technical assistance, and even capital. The foreign buyer may enter into a joint management or ownership arrangement to produce the subcontracted product, but ownership is not an essential part of the arrangements. In some cases the entire output may be sold abroad initially, with foreign orders filled first and the domestic market satisfied second. Such instances, though recorded, are probably the exception rather than the rule (see Suh 1975). Nonetheless, the exceptions point to the important fact that new industries are developed and expand under an export promotion strategy, and industrialization is by no means synonymous with import substitution.

From an analytical viewpoint, the importance of the recognition that new industries can start under either strategy is severalfold. First, it suggests that the basic criticism of the infant industry argument for tariff

protection—that one should subsidize an “infant” product rather than impose a tariff—was empirically very important, although perhaps for different reasons than the “consumption cost” arguments initially put forth. Second, it raises a number of questions about the determinants of productivity growth within individual industries. Third, it raises questions about the determination of comparative advantage within the industrial sector and how it changes in the course of economic growth. The first two questions are addressed here. The third is the subject of chapter 4.

While, as seen above, economic theory indicates that exporting and import substitution industries should both be at sizes where the marginal cost of earning a unit of foreign exchange is equated with the marginal cost of saving a unit of foreign exchange in each line of activity, that precept gives no hint as to the likely proportion of resources going to import substituting and exporting industries at the optimum. One factor of some importance in yielding high-cost import substitution activities has been the very small size of domestic plants. To the extent that there are significant indivisibilities or scale economies in industrial operation, the economic costs of failing to expand plants and industries to sizes adequate to serve more than the domestic market are significantly greater than suggested by consideration of the gains from trade implied by the static comparative advantage model. The lower transport costs between a country and its major trading partners, the greater will be the advantages of longer production runs and of building optimal-sized plants contrasted with the advantages of introducing more, smaller new industries catering to the home market. Conversely, the larger the minimum efficient size of plant, the greater will be the economic costs of catering only to the home market.

The only piece of quantitative evidence available on this point comes from the South Korean experience. There an attempt to estimate the importance of scale economies in manufacturing industries as a factor contributing to the rate of growth of industrial output resulted in an estimate that about 18 percent or one-sixth of the growth in industrial output between 1966 and 1968 was the result of achieving scale economies or overcoming problems associated with small size (Nam 1975). There have also been occasional suggestions that capital-intensive industries tend to have larger minimum efficient sizes and higher costs of operating below those sizes than do labor-intensive industries. If that is the case, and if an import substitution strategy tends to encourage the development of more capital-intensive industries than does an export promotion strategy,²⁶ that further contributes to the incremental output gains achieved under an export promotion strategy.

That the domestic markets of most developing countries may be too small to support efficient-sized plants makes the traditional criticisms of

the infant industry argument for protection—that it imposes costs on consumers and that a production subsidy would be preferable—even more forceful than was earlier thought. Because, to the extent that import substitution is really a way of fostering infant industries, it is inefficient in discriminating between markets based upon place of sale: efficient development of new industries in most cases probably entails an expansion beyond the boundaries of domestic markets. An efficient industrialization strategy is thus seen to be one in which incentives, when granted, induce activity at minimum efficient size, and for that purpose they must be based upon production, not the destination of output.

Before concluding that the gains from export promotion originate largely from the opportunities a larger market provides for minimum-efficient-sized operations, however, we should look at two related considerations. On one hand, export promotion permits the rapid expansion of the most successful new firms and industries, in addition to enabling initial entry at economically efficient size. On the other hand, firms in an exporting environment are generally confronted with international competition and do not face the sheltered domestic markets they face under import substitution.

Little is known about the dynamics of productivity increase: it is not at all clear the extent to which increases in output per head are achieved within existing plants; by new, higher-productivity firms driving out older ones; and by competition among firms with the share of firms with above-average productivity increasing and the shares of firms with below-average productivity decreasing. Even if the contribution of each of these three sources of productivity increase were known, the extent to which productivity gains of any sort were the result of competition among firms would remain an open question. In a monopolistic setting, for example, it might with fairness be asserted that productivity growth could be slow because of the absence of a competitive spur or because the entrepreneurial skill of management was poor, or for other reasons.

3.2.3 Conclusions

The evidence is strong that growth performance seems better under export promotion than under import substitution. Some of the reasons this is so are readily apparent. What is not known is the relative importance of each contributing factor and the interaction among them. It is probable that each of the phenomena discussed above has contributed, perhaps in different degrees in different countries depending upon such factors as size of domestic market, per capita income level, and proximity to the major industrialized countries. What should be borne in mind throughout this volume is that the links between more rapid economic growth and developments in the labor market are not entirely understood. In general there is a fairly strong presumption that factors that

tend to increase the rate of economic growth also tend to shift the demand for labor more rapidly to the right. Insofar as the rest of this book focuses upon commodity composition and factor substitution effects of alternative trade regimes, it may be that the single most important effect of choice of trade regimes upon employment is overlooked.