

ESSAYS IN INTERNATIONAL FINANCE

No. 141, December 1980

THE PROCESS OF
INDUSTRIAL DEVELOPMENT AND
ALTERNATIVE DEVELOPMENT STRATEGIES

BELA BALASSA



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

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The author, Bela Balassa, is Professor of Political Economy at the Johns Hopkins University and Consultant at the World Bank. He is the author of numerous books and articles on international trade, economic development, and comparative systems, and has served as advisor to the governments of a number of developing countries. This essay was presented as the Frank D. Graham Memorial Lecture at Princeton University on April 17, 1980. The author alone is responsible for its contents, which should not be interpreted to reflect the views of the World Bank.

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PETER B. KENEN, Director
International Finance Section

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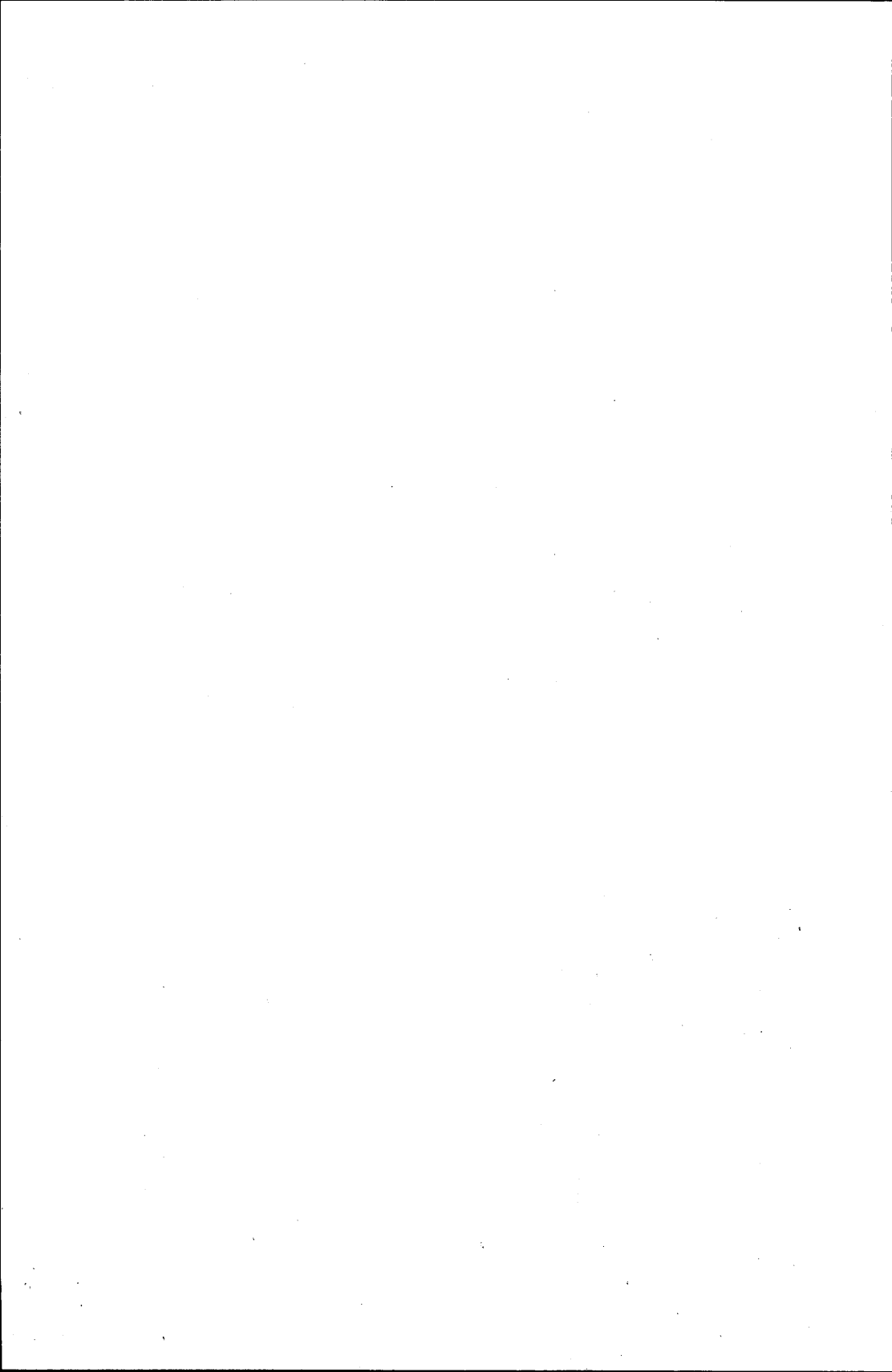
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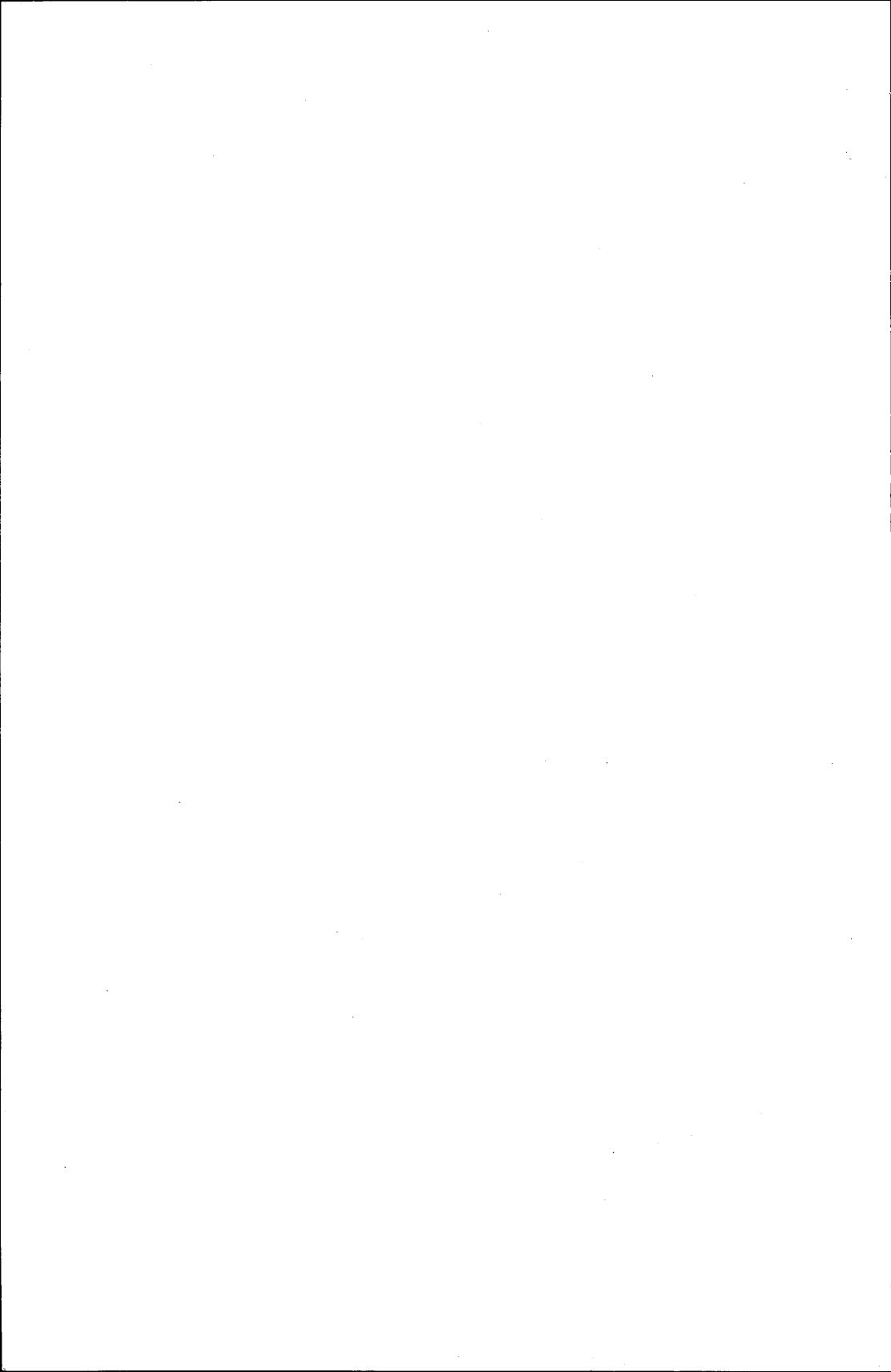
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PREFACE

The invitation to present the Frank D. Graham Memorial Lecture at Princeton University provided me with the welcome opportunity to review and to summarize my ideas on the process of industrial development and on alternative development strategies. This essay retains the format of the lecture, and it eschews footnote references. A list of my publications, from which the empirical evidence cited in the essay is derived, is contained in the Appendix.



1 Introduction

The use of the expression "industrial development" rather than "industrialization" in the title of this essay is meant to convey the idea that the development of manufacturing industries is part and parcel of overall economic development. At its earlier stages, industrial development is contingent on demand and savings generated in the primary sector; subsequently, intersectoral flows assume importance, and protection and other incentives to manufacturing will affect the profitability of primary activities.

The use of the expression "process" in the title is meant to emphasize the element of continuity in industrial development, as well as the idea that countries may proceed through similar stages in the course of their industrialization. While the concept of "stages" has fallen into disuse, and even disrepute, it is a convenient way to characterize the pattern of industrial development that takes place in countries before they become full-fledged industrial nations.

The expression "process" is not meant to convey the idea that, once begun, industrial development will continue uninterrupted. There are, in fact, *accidents de parcours* that may halt or reverse the process. Such accidents may be due to external causes; for example, the theft of a few specimens of the Hevea plant from Brazil at the start of the century led to the production of rubber in South East Asia and cut short the export boom in Brazil, thereby reducing demand for industrial products there.

But, more often than not, the *accidents de parcours* are due to inappropriate policies. More generally, the results obtained will depend on the policies applied. This will be the case particularly after the completion of the first stage of import substitution. The reference to "alternative development strategies" in the title reflects the importance I attach to the choice of policies for industrial and economic development.

This is not to deny the role in the process of industrial development of objective factors such as country size, natural-resource endowment, location, preferential ties, foreign investment, foreign aid, education, and political and social conditions. At the same time, the importance of these factors should not be exaggerated.

The size of the country will influence the scope for exploiting economies of scale and the extent of domestic competition, and hence the degree to which inward-oriented industrial development may proceed without incurring excessive costs. But a large country may unduly

postpone policy reform, while a small country will be under greater pressure to carry out reforms. In this connection, reference may be made to the positive correlation observed between the size of domestic markets and the height of tariffs in the present-day industrial countries when they were in the early stages of industrial development. While the United States and Russia had the highest rates of protection at the time of their early industrial development, the small countries of the Benelux and Scandinavia were traditionally free-traders.

The correlation between country size and protection is far from perfect in the developing countries of today, indicating the importance of policy choices. Thus, Brazil, the developing country with the largest domestic market, turned toward promoting manufactured exports in the mid-sixties, as continued import substitution encountered market limitations and led to a slowdown of industrial and economic growth. By contrast, a large developing country, India, continued its inward-oriented policies during the period preceding the oil crisis, as did a medium-sized country, Chile, and a small country, Uruguay.

Also, contrary to the oft-expressed view that seeks to explain the adoption of an outward-oriented development strategy by Far Eastern developing countries in terms of market size, these countries are hardly small in relation to other developing countries. Thus, Korea can be considered a large developing country, having a population nearly one-half larger than Argentina; Taiwan has a population more than one-half larger than Chile; and Hong Kong has a population more than one-half larger than Uruguay, with Singapore not far behind.

A country's endowment of natural resources will benefit its industrial development by providing domestic markets and investible funds for manufacturing industries, as well as materials for further transformation. For several reasons, however, it is a mixed blessing: the availability of primary exports may lead to the postponement of domestic policy change; high wages in natural-resource industries raise wages and hence production costs in manufacturing industries; and natural-resource exports give rise to an unfavorable exchange rate for industrial activities. While the Kuwait syndrome represents a rather special case, oil earnings have adversely affected the international competitiveness of manufacturing industries in Venezuela and, more recently, Mexico.

The success of Denmark and Norway in transforming their export structure has been attributed to their favorable geographical location,

with nearby markets for their manufactured goods in Western Europe. However, Japan did well in the export of manufactured goods notwithstanding its distant location. Subsequently, so did Korea and Taiwan, which had more success in exporting to the United States than to the nearby Japanese market.

Location will be relevant for regional economic integration. But regional integration can lead to the establishment of a high-cost area, as happened in Central America. At any rate, integration efforts have met with little success in developing countries; countries as different as Brazil and the Ivory Coast regard the large markets of the industrial countries as more promising than regional markets. And Korea and Taiwan have reached high growth rates of exports and GNP without having access to regional markets.

Preferential ties to industrial countries are said to provide advantages for exporting manufactured goods. A better formulation would be to speak of potential advantages, since the Philippines in the first half of the century and, more recently, the former French territories participating in the Lomé convention have not been successful in exploiting the opportunities provided by preferential access. In turn, contrary to popular misconceptions, Korea and Taiwan have not enjoyed preferential access to the U.S. market.

Foreign direct investment has been of much greater importance in Latin America than in the Far East. With the exception of Singapore, Far Eastern developing countries have tended to follow the Japanese pattern of relying on indigenous entrepreneurship. In any case, it is not only the volume but the sectoral allocation of foreign direct investment that matters. While investment in export industries will contribute to economic growth, foreign direct investment in industries operating behind high protection may entail a net loss of foreign exchange for the host country. This will be the case if the foreign-exchange cost of materials and machinery, augmented by the repatriation of profits, exceeds the c.i.f. import value of the product.

At the same time, the contribution of foreign aid to economic development will depend on the form it takes. The tying of aid tends to raise industrial costs, and food aid may hinder agricultural development. Furthermore, in the case of Korea and Taiwan, foreign aid should be set against the defense spending it was to a large degree destined to finance. In fact, since the late fifties in Taiwan and since the mid-sixties in Korea, defense spending has exceeded foreign aid by an increasing margin.

Education has been cited as a major factor contributing to the

economic success of the Far Eastern countries. But, measured by the Harbison-Myers index, Chile and Uruguay had high education levels in the sixties and nevertheless exhibited poor economic performance. In any case, the level of education is the result of investment in human capital, which is affected by government policies.

Political and social conditions may assist or hinder industrial development. There are successful and unsuccessful economic performers among both dictatorships and democracies. At the same time, references to social conditions often become ex-post rationalizations. Thus, while the growth successes of Korea and Taiwan have come to be attributed to the Confucian ethic, twenty years ago AID administrators ridiculed the notion that the commercial-minded Taiwanese would become successful producers and exporters of manufactured goods, and only fifteen years ago Korea was considered a hopeless case.

2 Early Stages of Industrial Development

The Generation of a Surplus in the Primary Sector

Industrial development generally begins in response to domestic demand generated in the primary sector, which also provides investible funds for manufacturing industries. Demand for industrial products and investible savings represent possible uses of the surplus generated in agriculture (understood in a larger sense to include crops, livestock, fisheries, and forestry) or in mining as primary output comes to exceed subsistence needs. More often than not, the surplus generated in the primary sector is associated with export expansion. The effects of primary exports on industrial development, in turn, depend to a considerable extent on input-output relationships and on the disposition of incomes generated in the export sector.

Infrastructure in the form of ports, railways, and roads often represents important inputs for primary exports, and their availability may contribute to the development of industrial activities. In turn, the disposition of incomes generated in the export sector is affected by ownership conditions. In the case of foreign ownership, a substantial part of the surplus may be repatriated, although taxing the earnings of foreign capital does add to domestic incomes. There are leakages in the form of investing and spending abroad and consuming imported luxuries in the case of domestic ownership, too, in a system of plantation-type agriculture and large-scale mining. And, as Douglas

North noted, plantation owners have little incentive to finance human investment in the form of general education.

By contrast, in cases where family-sized farms predominate, demand is generated for the necessities and the conveniences of life, as well as for education. This demand contributes to the development of domestic industry, which enjoys "natural" protection from imports in the form of transportation costs. It further contributes to the accumulation of human capital, which finds uses in manufacturing industries.

The process of industrial development may be accelerated if natural protection is complemented by tariff or quota protection. This last point leads me to the next step in the industrialization process: the first, or "easy," stage of import substitution.

The First Stage of Import Substitution

With the exception of Britain at the time of the Industrial Revolution and Hong Kong more recently, all present-day industrial and developing countries protected their incipient manufacturing industries producing for domestic markets. There were differences, however, as regards the rate and the form of protection. While the industrial countries of today relied on relatively low tariffs, a number of present-day developing countries applied high tariffs or quantitative restrictions that limited, or even excluded, competition from imports.

At the same time, high protection discriminates against exports, through the explicit or implicit taxation of export activities. Explicit taxation may take the form of export taxes, while implicit taxation occurs as a result of the effects of protection on the exchange rate. The higher the rate of protection, the lower will be the exchange rate necessary to ensure equilibrium in the balance of payments, and the lower will be the amount of domestic currency exporters receive per unit of foreign exchange earned.

The adverse effects of high protection are exemplified by the case of Ghana, where import prohibitions encouraged inefficient, high-cost production in manufacturing industries; taxes on the main export crop, cocoa, discouraged its production; and other crops were adversely affected by the unfavorable exchange rate. Ghana's neighbor, the Ivory Coast, by contrast, followed a policy encouraging the development of both primary and manufacturing activities. As a result, it increased its share of cocoa exports, developed new primary exports, and expanded manufacturing industries.

Differences in the policies applied may largely explain why, be-

tween 1960 and 1978, per capita incomes fell from \$430 to \$390 in Ghana in terms of 1978 prices, compared with an increase from \$540 to \$840 in the Ivory Coast. This has occurred notwithstanding the facts that the two countries have similar natural-resource endowments and, at the time of independence, Ghana had the advantage of a higher educational level and an indigenous civil service.

Indeed, there is no need for high protection at the first stage of import substitution, entailing the replacement by domestic production of imports of nondurable consumer goods such as clothing, shoes, and household goods, and of their inputs, such as textile fabrics, leather, and wood. These commodities suit the conditions existing in developing countries when they begin the industrialization process: they are intensive in unskilled labor; the efficient scale of output is relatively low, and costs do not rise substantially at lower output levels; production does not involve the use of sophisticated technology; and a network of suppliers of parts, components, and accessories is not required for efficient operation.

The relative advantages of developing countries in these commodities explain the frequent references made to the "easy" stage of import substitution. At the same time, to the extent that the domestic production of these commodities generates external economies in the form of labor training, the development of entrepreneurship, and the spread of technology, there is an argument for moderate infant-industry protection or promotion.

3 Inward-Oriented Industrial Development Strategies

In the course of first-stage import substitution, domestic production will rise more rapidly than domestic consumption, since it not only provides for increases in consumption but also replaces imports. Once the process of import substitution has been completed, however, the growth rate of output will decline to that of consumption.

Maintaining high industrial growth rates, then, necessitates either moving to second-stage import substitution or turning to the exportation of manufactured goods. This choice represents alternative industrial development strategies that may be followed after the completion of the first stage of import substitution. I first consider second-stage import substitution, representing the application of an inward-looking industrial development strategy, and subsequently examine an outward-oriented strategy that does not discriminate against exports, with favorable effects on the exporting of manufactured goods.

The Choice of Second-Stage Import Substitution

In the postwar period, second-stage import substitution was undertaken in several Latin-American countries, in some South Asian countries, particularly India, and in the Central and Eastern European socialist countries. In Latin America, the choice of this strategy reflected the ideas of Raul Prebisch, in whose view adverse foreign-market conditions for primary exports and the lack of competitiveness in manufactured exports would not permit developing countries to attain high rates of economic growth by relying on export production. Rather, Prebisch suggested that these countries should expand manufacturing industries oriented toward domestic markets. This purpose was to be served by industrial protection, which was said to bring additional benefits through improvements in the terms of trade.

Similar ideas were expressed by Gunnar Myrdal. Myrdal influenced the policies followed by India; they were also affected by the example of the Soviet Union, which chose an autarkical pattern of industrial development. And the European socialist countries faithfully imitated the Soviet example, attempting to reproduce it in the framework of much smaller domestic markets that also lacked the natural-resource base of the Soviet Union.

Second-stage import substitution involves the replacement of imports of intermediate goods and producer and consumer durables by domestic production. These commodities have rather different characteristics from those replaced at the first stage.

Intermediate goods such as petrochemicals and steel tend to be highly capital-intensive. They are also subject to important economies of scale: efficient plant size is large compared with the domestic needs of most developing countries, and costs rise rapidly at lower output levels. Moreover, the margin of processing is relatively small, and organizational and technical inefficiencies may contribute to high costs.

Producer durables, such as machinery, and consumer durables, such as automobiles and refrigerators, are also subject to economies of scale. But in these industries economies of scale relate not so much to plant size as to horizontal and vertical specialization, entailing reductions in product variety and the manufacture of parts, components, and accessories on an efficient scale in separate plants.

Reducing product variety will permit longer production runs that lower production costs through improvements in manufacturing efficiency along the "learning curve," savings in expenses incurred in

moving from one operation to another, and the use of special-purpose machinery. Horizontal specialization is, however, limited by the smallness of domestic markets in the developing countries.

Similar conclusions apply to vertical specialization, which leads to cost reductions through the subdivision of the production process among plants of efficient size. General Motors, for example, has ten thousand subcontractors, each producing a part or component. This extended division of the production process has permitted General Motors to produce at a substantially lower cost than its U.S. competitors. A number of years ago, Martin Shubik reached the conclusion that without antitrust legislation only General Motors would survive in the United States, and he predicted the disappearance of several small American car producers. Some producers have in fact disappeared since, and without federal support Chrysler would have met a similar fate.

At the same time, the production of parts, components, and accessories has to be done with precision for consumer durables, and especially for machinery. This, in turn, requires the availability of skilled and technical labor and, to a greater or lesser extent, the application of sophisticated technology.

Given the relative scarcity of physical and human capital in developing countries that have completed the first stage of import substitution, they are at a disadvantage in the manufacture of highly physical-capital-intensive intermediate goods and skill-intensive producer and consumer durables. By limiting the scope for the exploitation of economies of scale, the relatively small size of their national markets contributes to high domestic costs in these countries. At the same time, net foreign-exchange savings tend to be small because of the need to import materials and machinery.

The domestic resource cost (DRC) ratio relates the domestic resource cost of production, in terms of the labor, capital, and natural resources utilized, to net foreign-exchange savings (in the case of import substitution) or net foreign-exchange earnings (in the case of exports). In the absence of serious distortions in factor markets, the DRC ratio will be low for exported commodities. It is also relatively low for consumer nondurables and their inputs, in the production of which developing countries have a comparative advantage. For the reasons already noted, however, DRC ratios tend to be high in the manufacture of intermediate goods and producer and consumer durables. The establishment of these industries to serve narrow domestic markets is therefore predicated on high protection, and the rates of

protection may need to be raised as countries "travel up the staircase" represented by DRC ratios. This will occur as goods produced at earlier stages come to saturate domestic markets and countries embark on the production of commodities that less and less conform to their comparative advantage. High protection, in turn, discriminates against manufactured and primary exports and against primary activities in general.

Characteristics of Inward-Oriented Development Strategies

In the postwar period, several capitalist countries in Latin America and South Asia and the socialist countries of Central and Eastern Europe adopted inward-oriented industrial development strategies, entailing second-stage import substitution. Capitalist countries generally utilized a mixture of tariffs and import controls to protect their industries, while socialist countries relied on import prohibitions and industry-level planning. Notwithstanding these differences, the principal characteristics of the industrial development strategies adopted in the two groups of countries show considerable similarities.

To begin with, while the infant-industry argument calls for temporary protection until industries become internationally competitive, in both groups of countries protection was regarded as permanent. Also, in all the countries concerned, there was a tendency toward what a Latin-American economist aptly described as "import substitution at any cost."

Furthermore, in all the countries concerned, there were considerable variations in rates of explicit and implicit protection across industrial activities. This was the case, first of all, as continued import substitution involved undertaking activities with increasingly high domestic costs per unit of foreign exchange saved. In capitalist countries, the generally uncritical acceptance of demands for protection contributed to this result; in the absence of price comparisons, the protective effects of quantitative restrictions could not even be established. In socialist countries, the stated objective was to limit imports to commodities that could not be produced domestically or were not available in sufficient quantities, and no attempt was made to examine the implicit protection that pursuit of this objective entailed.

In both groups of countries, the neglect of intra-industry relationships further increased the dispersion of protection rates on value added in processing, or effective protection, with adverse effects on economic efficiency. In Argentina, high tariffs imposed on caustic

soda at the request of a would-be producer made formerly thriving soap exports unprofitable. In Hungary, the high cost of domestic steel, whose production was based largely on imported iron ore and coking coals, raised costs for steel-using industries. Large investments in the steel industry, in turn, delayed the substitution of aluminum for steel, although Hungary had considerable bauxite reserves.

Countries applying inward-oriented industrial development strategies were further characterized by the prevalence of sellers' markets. In capitalist countries, the smallness of national markets limited the possibilities for domestic competition in industries established at the second stage of import substitution, while import competition was virtually excluded by high protection. In socialist countries, the system of central planning did not permit competition among domestic firms or from imports, so that buyers had neither a choice among domestic producers nor access to imported commodities.

The existence of sellers' markets provides little inducement to cater to users' needs. In the case of industrial users, it led to backward integration as producers undertook the manufacture of parts, components, and accessories themselves in order to minimize supply difficulties. This outcome, observed in capitalist as well as socialist countries, led to higher costs, since economies of scale were foregone.

Also, in sellers' markets, firms had little incentive to improve productivity. In capitalist countries, monopolies and oligopolies assumed importance; the oligopolists often aimed at the maintenance of market shares while refraining from actions that would invoke retaliation. In socialist countries, the existence of assured outlets and the managers' emphasis on short-term objectives discouraged technological change.

The managers' emphasis on short-term objectives in socialist countries had to do with uncertainty as to the planners' future intentions. In capitalist countries, fluctuations in real exchange rates (nominal exchange rates, adjusted for changes in inflation rates at home and abroad) created uncertainty for business decisions. These fluctuations, resulting from intermittent devaluations in the face of rapid domestic inflation, aggravated the existing bias against exports, because the domestic-currency equivalent of export earnings varied with the devaluations, the timing of which was uncertain.

In countries engaging in second-stage import substitution, distortions were further apparent in the valuation of time. In capitalist countries, negative real interest rates adversely affected domestic savings, encouraged self-investment—including inventory accumulation—at low returns, and provided inducements to transfer funds

abroad. Negative interest rates also necessitated credit rationing, which generally favored import-substituting investments, whether the rationing was done by the banks or the government. In the first case, the lower risk of investments in production for domestic than for export markets gave rise to such a result; in the second case, the preference given to import-substituting investments reflected government priorities. Finally, in socialist countries, ideological considerations led to the exclusion of interest rates as a charge for capital and an element in the evaluation of investment projects.

There was also a tendency to underprice public utilities in countries following an inward-oriented strategy, either because of low interest charges in these capital-intensive activities or as a result of a conscious decision. The underpricing of utilities particularly benefited energy-intensive industries and promoted the use of capital.

In general, in moving to the second stage of import substitution, countries applying inward-oriented development strategies de-emphasized the role of prices. In socialist countries, resources were in large part allocated centrally in physical terms; in capitalist countries, output and input prices were distorted, and reliance was placed on nonprice measures—import restrictions and credit allocation.

Effects on Exports and on Economic Growth

The discrimination in favor of import substitution and against exports did not permit the development of manufactured exports in countries engaging in second-stage import substitution behind high protection. There were also adverse developments in primary exports, because low prices for producers and consumers reduced the exportable surplus by discouraging production and encouraging consumption. In fact, instead of improving the external terms of trade, import protection turned the internal terms of trade against primary activities and led to a decline in export market shares in the countries in question. Decreases in market shares were especially pronounced in cereals, meat, oilseeds, and nonferrous metals, benefiting developed countries, particularly the United States, Canada, and Australia.

The volume of Argentina's principal primary exports, chiefly beef and wheat, remained, on average, unchanged between 1934-38 and 1964-66, while world exports of these commodities doubled. In the same period, Chile's share of world copper exports, which accounted for three-fifths of the country's export earnings, fell from 28 per cent to 22 per cent.

Similar developments occurred in socialist countries, where the allocation of investment favored industry at the expense of agriculture. In Hungary, exports of several agricultural commodities, such as goose liver, fodder seeds, and beans, declined in absolute terms, and slow increases in production made it necessary to import cereals and meat, which earlier were major export products.

The slowdown in the growth of primary exports and the lack of growth of manufactured exports did not provide the foreign exchange necessary for rapid economic growth in countries pursuing inward-oriented industrial development strategies. The situation was aggravated by the increased need for foreign materials, machinery, and technological know-how, which reduced net import savings. As a result, economic growth was increasingly constrained by the scarcity of foreign exchange, and intermittent foreign-exchange crises occurred when attempts were made to expand the economy at rates exceeding that permitted by the growth of export earnings.

The savings constraint became increasingly binding as high-cost, capital-intensive production at the second stage of import substitution raised capital-output ratios, requiring ever-increasing savings ratios to maintain rates of economic growth. At the same time, the loss of income because of the high cost of protection reduced the volume of savings and, in capitalist countries, negative interest rates contributed to the outflow of funds.

In several developing countries, the cost of protection is estimated to have reached 6 to 7 per cent of GNP. There is further evidence that the rate of growth of total factor productivity was lower in countries engaging in second-stage import substitution than in the industrial countries. Rather than reduce the economic distance between the industrial and the developing countries, then, infant-industry protection may have caused this lag to increase over time.

4 Outward-Oriented Industrial Development Strategies

An outward-oriented development strategy should not be interpreted to mean favoring exports over import substitution. Rather, it is characterized by the provision of similar incentives to production for domestic and for export markets. Although the definitions of inward- and outward-oriented development strategies are not symmetrical, they reflect reality, because few countries gave appreciably more incentives to any of their exports than to sales in domestic markets.

In addition to a lack of bias against exports, countries applying outward-oriented development strategies generally had positive real interest rates, adopted realistic prices for public utilities, reduced interindustry differences in incentives, and provided for automaticity and stability in the incentive system. On the whole, these countries minimized price distortions and relied on the market mechanism for efficient resource allocation and rapid economic growth.

The Choice of Outward Orientation

The slowdown in economic growth that eventually resulted from the pursuit of an inward-oriented development strategy led to policy reform in several of the countries applying such a strategy. Among capitalist countries, policy reforms were undertaken in the mid-sixties in Argentina, Brazil, and Colombia, and in subsequent years in Mexico. The reforms generally involved providing subsidies to manufactured exports, reducing import protection, applying a system of crawling exchange-rate pegs, adopting positive real interest rates, and introducing greater realism in the pricing of public utilities.

Among socialist countries, central resource allocation and price determination gave way to the decentralization of decision-making in Hungary. Market relations were introduced among firms, and domestic prices were linked to world market prices through the exchange rate, with adjustments for import tariffs and export subsidies.

The policy reforms undertaken by countries that engaged in second-stage import substitution thus involved making increased use of the price mechanism and reducing price distortions, particularly in foreign trade. The incentive systems that emerged as a result of the reforms in the period preceding the 1973 oil crisis may be compared with the incentive systems applied in countries that adopted an outward-oriented industrial development strategy immediately following the completion of first-stage import substitution.

Among present-day industrial countries, an outward-oriented development strategy was adopted by Denmark and Norway in the years immediately following the Second World War. In southern Europe and, with certain limitations, in Japan, it began in the mid-fifties. In Korea, Singapore, and Taiwan, it has been pursued since the early sixties.

In a comparison of the incentive systems applied by the three Far Eastern countries and those adopted in the four Latin-American countries following second-stage import substitution, several features deserve attention. They include the treatment of the export sector,

relative incentives to exports and import substitution, the variability of incentive rates among particular activities, relative incentives to manufacturing and primary production, and the automaticity and stability of the incentive system.

In the three Far Eastern countries, a free-trade regime was applied to exports. Exporters were free to choose between domestic and imported inputs, they were exempted from indirect taxes on their output and inputs, and they paid no duty on imported inputs. The same privileges were extended to the producers of domestic inputs used in export production.

The application of these rules provided equal treatment to all exports. And while some additional export incentives were granted, they did not introduce much differentiation among individual export commodities. At the same time, these incentives ensured that in the manufacturing sector, on average, exports and import substitution received similar treatment. Furthermore, there was little discrimination against primary exports and primary activities in general; incentives were, on the whole, provided automatically; and the incentive system underwent few modifications over time.

Latin-American countries that reformed their incentive system after engaging in second-stage import substitution (Argentina, Brazil, Colombia, and Mexico) granted subsidies to their nontraditional exports. They also reduced the extent of import protection, both directly, through tariff cuts and import liberalization, and indirectly, as the growth of exports in response to the subsidies granted diminished the need for exchange-rate depreciation and thereby reduced the protective effects of tariffs.

The four Latin-American countries did not, however, provide exporters with a free choice between domestic and imported inputs. Rather, in order to safeguard existing industries, exporters were required to use domestic inputs produced under protection. To compensate exporters for the resulting excess cost, as well as for the effects of import protection on the exchange rate, the countries in question granted explicit export subsidies.

These subsidies were not sufficient, however, to provide producers with export incentives comparable to the protection of domestic markets. Thus, there continued to be a bias in favor of import substitution and against exports, albeit at a reduced rate. The extent of discrimination was especially pronounced against traditional primary exports, which did not receive export subsidies and, in some instances, continued to be subject to export taxes.

Furthermore, export subsidies and the protection of inputs used in export industries varied among industries, so that there was considerable variation in the ratio of export subsidies to value added in the production process. Large intercommodity variations were observed also in regard to effective rates of protection on sales in domestic markets. At the same time, some of the incentives were subject to discretionary decision-making.

Nevertheless, with the adoption of the crawling peg, the policy reforms undertaken in the four Latin-American countries imparted considerable stability to the incentive system. Also, discrimination against exports and primary activities was reduced to a considerable extent, while such discrimination persisted in countries like India, Chile, and Uruguay, which continued to apply import-substitution policies until the oil crisis of 1973.

In India, the introduction of selected export subsidies in the mid-sixties was far overshadowed by continued prohibitions on imports and the controls imposed on investment. Furthermore, subsidies were subject to complex regulations and discretionary decision-making. Chile traditionally had the highest level of import protection in Latin America and, after brief experimentation with import liberalization, it reimposed import restrictions in the early seventies. Protection levels were also high in Uruguay, and little effort was made to promote exports.

Incentives and Export Performance

There is evidence that the system of incentives applied affects a country's export performance. Econometric estimates made for a number of countries show that increases in export prices received by producers, reflecting the effects of export incentives, are associated with a rise in the volume of exports. In the case of Korea, it has also been shown that export incentives are positively correlated with the share of exports in domestic output and with the contribution of exports to increases in output in an interindustry framework.

These results are confirmed by a comparison of the export performance of three groups of countries applying different incentive schemes: countries that adopted an outward-oriented industrial development strategy following the completion of the first stage of import substitution (Korea, Singapore, and Taiwan); countries that moved to the second stage of import substitution but subsequently reformed their systems of incentives (Argentina, Brazil, Colombia, and Mexico); and countries that continued to apply an inward-oriented

development strategy until the 1973 oil crisis (India, Chile, and Uruguay).

Export performance can be measured in a variety of ways. For purposes of comparison, I used the rate of growth of exports and changes in export-output ratios. The results obtained from the use of the two measures gave broadly similar results for the ten developing countries considered.

In the 1960-66 period, increases in manufactured exports and in export-output ratios were the most rapid in the three Far Eastern countries, which adopted an outward-oriented strategy in the early sixties. These countries further improved their export performance between 1966 and 1973, when they intensified their export-promotion efforts. As a result, the share of exports in manufactured output rose from 1 per cent in 1960 to 14 per cent in 1966 to 41 per cent in 1973 in Korea, from 11 per cent to 20 per cent to 43 per cent in Singapore, and from 9 per cent to 19 per cent to 50 per cent in Taiwan. Notwithstanding their poor natural-resource endowments, the three countries also had the highest growth rates of primary exports, and hence of total exports, among the ten countries.

Between 1966 and 1973, the growth of manufactured exports accelerated in the four Latin-American countries, which reformed their system of incentives during this period. In particular, the share of exports in manufactured output rose from 1 per cent in 1966 to 4 per cent in 1973 in both Argentina and Brazil. Nevertheless, this share remained much lower than in the Far East, and the countries in question experienced a continued erosion of their traditional primary exports, although they made gains in nontraditional primary exports that received subsidies. While the countries in question experienced an acceleration in the rate of growth of their total exports, they were far surpassed by the three Far Eastern countries.

India, Chile, and Uruguay, which continued applying an inward-looking development strategy, did poorly in primary as well as in manufactured exports and showed a decline in the share of exports in manufactured output between 1960 and 1973. India lost ground in textiles, its traditional export, and was slow to develop new manufactured exports. As a result, its share in the combined exports of manufactured goods of the ten countries declined from 69 per cent in 1960 to 12 per cent in 1973. In the same period, Chile's share fell from 4 per cent to 1 per cent, while Uruguay's share never reached one-fifth of 1 per cent of the total.

Exports, Employment, and Economic Growth

Continued import substitution behind high protection in narrow domestic markets involves "traveling up the staircase" by undertaking the production of commodities that involve increasingly high domestic costs per unit of foreign exchange saved. By contrast, exporting involves "extending a lower step on the staircase" by increasing the production of commodities in which the country has a comparative advantage, with low domestic resource costs per unit of foreign exchange. Exporting also permits the fuller use of capacity and allows reductions in unit costs through the exploitation of economies of scale, thereby contributing to efficient production for domestic markets as well. Finally, exposure to foreign competition provides stimulus for technological change.

Resource allocation according to comparative advantage, higher utilization of capacity, and the exploitation of economies of scale all lower capital-output ratios in export activities. The savings in capital that result may be used to increase output and employment elsewhere in the economy in countries where labor is not fully employed. This will occur through the indirect effects of export expansion, which creates demand for domestic inputs and generates higher incomes that are in part spent on domestic goods.

The higher incomes made possible through export expansion will give rise to increased savings, and there is some evidence that a greater than average proportion of income generated in the export sector is saved. Lower capital-output ratios and higher savings ratios, then, will ease the savings constraint on economic growth. Export expansion will also ease the foreign-exchange constraint, permitting increases in the importation of materials and machinery.

The experience of individual countries provides evidence of the direct and indirect effects of exports during the period preceding the 1973 oil crisis. In countries for which data are available, capital-labor ratios were substantially lower in export industries than in import-substituting industries. At the same time, there was a shift toward labor-intensive export industries in countries following an outward-oriented development strategy, such as Korea, while a shift in the opposite direction occurred in countries pursuing inward-oriented strategies, such as India.

Available data also indicate that the rate of capacity utilization increased to a considerable extent during the sixties in Korea and Taiwan, and after 1965 in Brazil. The shift toward labor-intensive in-

dustries and increased capacity utilization led, in turn, to higher employment and lower incremental capital-output ratios in the countries concerned.

Manufacturing employment increased by 10 to 12 per cent a year in Korea and Taiwan, leading to reductions in unemployment rates. *Pari passu* with the decline in unemployment, real wages increased rapidly as the demand for labor on the part of the manufacturing sector grew faster than the rate at which labor was released by the primary sector. After the 1966 policy reforms, real wages increased also in Brazil. By contrast, real wages declined in India, Chile, and Uruguay.

Furthermore, income increments were achieved at a considerably lower cost in terms of investment in countries that consistently followed an outward-oriented strategy. Thus, in the 1960-73 period, incremental capital-output ratios were 1.8 in Singapore, 2.1 in Korea, and 2.4 in Taiwan. At the other extreme, these ratios were 5.5 in Chile, 5.7 in India, and 9.1 in Uruguay. The four Latin-American countries that undertook policy reforms represent an intermediate group, with incremental capital-output ratios declining after the institution of policy reforms. In Brazil, where the rate of capacity utilization increased considerably, the ratio fell from 3.8 in 1960-66 to 2.1 in 1966-73.

Outward orientation also appears to have been associated with higher domestic savings ratios, and it attracted foreign investment. Increased export earnings and the inflow of foreign capital, in turn, made it possible to increase the imports of materials and machinery. A case in point is Brazil, where the ratio of imports to GNP rose from 6.1 per cent in 1966 to 11.1 per cent in 1973.

The operation of these factors gave rise to a positive correlation between exports and economic growth. The three Far Eastern countries had the highest GNP growth rates throughout the period, and the four Latin-American countries that undertook policy reforms considerably improved their growth performance after the reforms were instituted, while India, Chile, and Uruguay remained at the bottom of the growth league.

5 The Choice of a Development Strategy: Lessons and Prospects *Inward- vs. Outward-Oriented Development Strategies*

The evidence is quite conclusive: countries applying outward-oriented development strategies performed better in terms of exports,

economic growth, and employment than countries with continued inward orientation, which encountered increasing economic difficulties. At the same time, policy reforms aimed at greater outward orientation brought considerable improvement to the economic performance of countries that had earlier applied inward-oriented policies.

It has been suggested, however, that import substitution was a necessary precondition for the development of manufactured exports in present-day developing countries. In attempting to provide an answer to this question, a distinction needs to be made between first-stage and second-stage import substitution.

I have noted that, except in Britain and Hong Kong, the exportation of nondurable consumer goods and their inputs was preceded by an import-substitution phase. At the same time, there were differences among the countries concerned as regards the length of this phase and the level of protection applied. First-stage import substitution was of relatively short duration in the present-day industrial countries and in the three Far Eastern developing countries that subsequently adopted an outward-oriented strategy; it was longer in most other developing countries, and these countries also generally had higher levels of protection.

Nor did all nondurable consumer goods and their inputs go through an import-substitution phase before the Far Eastern countries began to export them. Synthetic textiles in Korea, plastic shoes in Taiwan, and fashion clothing in Singapore all began to be produced largely for export markets. Plywood and wigs, which were Korea's leading exports in the late sixties and early seventies, did not go through an import-substitution phase either.

Wigs provide a particularly interesting example, because they reflect the responses of entrepreneurs to incentives. Korea originally exported human hair to the industrial countries, especially the United States. Recognizing that human hair was made into wigs by a labor-intensive process, entrepreneurs began to exploit what appeared to be a profitable opportunity to export wigs, given the favorable treatment of exports in Korea and the limitations imposed by the United States on wigs originating from Hong Kong. The supply of human hair soon proved to be insufficient, however, and firms turned to exporting wigs made of synthetic hair. Wigs made with synthetic hair were for a time Korea's second-largest single export commodity, after plywood.

The example indicates that entrepreneurs will export the commodities that correspond to the country's comparative advantage if the system of incentives does not discriminate against exports. It also points to the need to leave the choice of exports to private initiative. It is highly unlikely that government planners would have chosen wigs as a potential major export or that they would have effected a switch from human to synthetic hair in making them. Even if a product group such as toys were identified by government planners, the choice of which toys to produce would have to be made by the entrepreneur, who has to take the risks and reap the rewards of his actions. At the same time, providing similar incentives to all export commodities other than those facing market limitations abroad and avoiding a bias against exports will ensure that private profitability corresponds to social profitability. This was, by and large, the case in countries pursuing an outward strategy.

These considerations may explain why Singapore and Taiwan did not need a planning or targeting system for exports. Export targets were in effect in Korea, but the fulfillment of these targets was not a precondition of the application of the free-trade regime to exports or of the provision of export incentives. While successful exporters were said to enjoy advantageous treatment in tax cases and export targets may have exerted pressure on some firms, these factors merely served to enhance the effects of export incentives without introducing discrimination among export products. At any rate, most firms continually exceeded their targets. A case in point is the increase in Korean exports by two-thirds between the second quarter of 1975 and the second quarter of 1976, exceeding the targets by a very large margin.

The reliance on private initiative in countries that adopted an outward-oriented development strategy can be explained by the need of exporters for flexibility to respond to changing world market conditions. Furthermore, government cannot take responsibility for successes and failures in exporting that will affect the profitability of firms. For these reasons Hungary, among socialist countries, gave firms the freedom to determine the product composition of their exports after the 1968 economic reform and especially after 1977.

In the Latin-American countries that reformed their incentive systems in the period preceding the 1973 oil crisis, the expansion of manufactured exports was not based on export targets either. The question remains, however, whether the development of exports in

these countries was helped by the fact that they had undertaken second-stage import substitution.

This question can be answered in the negative as far as nondurable consumer goods and their inputs are concerned. Had appropriate incentives been provided, these commodities could have been exported as soon as first-stage import substitution was completed, as was the case in the Far Eastern countries. In fact, to the extent that the products in question had to use some domestic inputs produced at higher than world market costs, exporters were at a disadvantage in foreign markets. It can also be assumed that the inability to exploit fully economies of scale and the lack of sufficient specialization in the production of parts, components, and accessories in the confines of the protected domestic markets retarded the development of exports of intermediate products and producer and consumer durables.

More generally, as a Hungarian economist has pointed out, there is the danger that second-stage import substitution will lead to the establishment of an industrial structure that is "prematurely old," in the sense that it is based on small-scale production with inadequate specialization and outdated machinery. Should this be the case, any subsequent move toward outward orientation will encounter difficulties. Such difficulties were apparent in the case of Hungary and may also explain why, although exports grew rapidly from a low base, their share in manufacturing output remained small in the Latin-American countries that moved toward outward orientation from the second stage of import substitution.

In contrast, in the period following the oil crisis the Far Eastern countries increasingly upgraded their exports of nondurable consumer goods and began exporting machinery, electronics, and transport equipment. For several of these products, including shipbuilding in Korea, photographic equipment in Singapore, and other electronic products in Taiwan, exporting was not preceded by an import-substitution phase. There are even examples, such as color television sets in Korea, where the entire production was destined for foreign markets.

Intermediate goods, machinery, and automobiles require special attention, given the importance of economies of scale on the plant level for the first; the need for product (horizontal) specialization for the second; and the desirability of vertical specialization in the form of the production of parts, components, and accessories on an efficient scale for the third. In all these cases, production in protected domestic markets will involve high costs in most developing countries, and the

establishment of small-scale and insufficiently specialized firms will make the transition to exportation difficult. This contrasts with the case of nondurable consumer goods and their inputs, where efficient production does not require large plants or horizontal and vertical specialization.

It follows that, rather than enter into second-stage import substitution as a prelude to subsequent exports, it is preferable to undertake the manufacture of intermediate goods and producer and consumer durables for domestic and foreign markets simultaneously. This will permit the exploitation of economies of scale and ensure efficient import substitution in some products, while others continue to be imported. At the same time, it will require the provision of equal incentives to exports and to import substitution instead of import protection that discriminates against exports.

Vulnerability and Policy Responses to External Shocks

Outward orientation involves increasing the share of exports in GNP, and the high share of exports in the national economies of countries undertaking such a strategy has been said to increase their vulnerability to foreign events. The experience of the post-1973 period casts some light on the validity of this claim.

Available evidence indicates that the Far Eastern countries applying an outward-oriented strategy weathered the effects of the quadrupling of oil prices in 1973-74 and the world recession of 1974-75 better than countries with continued inward orientation. This may be explained by differences in the "compressibility" of imports and in the flexibility of the national economies of countries applying different strategies. Outward orientation is associated with high export *and* import shares that permit reductions in nonessential imports without serious adverse effects on the functioning of the economy. By contrast, continued inward orientation involves limiting imports to an unavoidable minimum, so that any further reduction will impose a considerable cost in terms of growth. Furthermore, the greater flexibility of the national economies of countries pursuing an outward-oriented strategy, under which firms learn to live with foreign competition, makes it possible to change the product composition of exports in response to changes in world market conditions, whereas inward orientation entails establishing a more rigid economic structure.

I come next to policy responses to external shocks. In the Far Eastern countries there were pressures for a shift toward inward

orientation in the immediate aftermath of the oil crisis and the world recession. These countries nevertheless continued their outward-oriented development strategy, which made it possible for them to maintain high rates of growth of exports and GNP. Taking the 1973-79 period as a whole, per capita GNP rose at average annual rates of 8.3 per cent in Korea, 6.1 per cent in Singapore, and 5.5 per cent in Taiwan. Growth rates declined, however, after 1978 in Korea as its currency became increasingly overvalued and some large capital-intensive investments were undertaken.

Brazil attempted to maintain past rates of economic growth by relying on foreign borrowing and increased import protection. The high capital intensity of import-substitution projects, however, raised capital-output ratios and led to a decline in the rate of economic growth. Per capita incomes rose 5.2 per cent a year in 1966-73, 4.5 per cent in 1973-76, and 2.4 per cent in 1976-79. At the same time, the servicing of foreign loans imposed an increasing burden on Brazil's balance of payments.

Policy changes in the opposite direction were made in Chile and Uruguay, which had applied an inward-oriented strategy until the 1973 oil crisis. These countries responded to the deterioration of their terms of trade and the slowdown in the growth of foreign demand for their export products by reforming the system of incentives. The reforms involved eliminating quantitative restrictions, reducing the bias against exports, liberalizing financial markets, and adopting positive real interest rates.

In Uruguay, which had had a stagnant economy in the previous decade, the reforms led to rapid increases in exports and GNP; per capita GNP rose 3.1 per cent a year between 1973 and 1976 and 4.3 per cent a year between 1976 and 1979. The growth of exports and GNP accelerated in Chile after a period of dislocation caused by the application of a severe deflationary policy that was aggravated by rapid reductions in tariffs.

Argentina and Colombia rely on domestically produced oil and hence were unaffected by the quadrupling of petroleum prices. Colombia also enjoyed higher coffee prices, which more than offset the shortfall in exports due to the slowdown in the growth of foreign demand. But it reduced incentives to nontraditional exports, with attendant losses in export market shares, and it was not able to translate increases in foreign-exchange earnings from traditional exports into higher GNP growth rates. The distortions caused by rapid inflation were largely responsible for low GNP growth rates in Argentina.

Mexico lost export market shares in both traditional and non-traditional exports following the adoption of domestic expansionary policies, financed in large part by the inflow of foreign capital. And while the discovery of large oil deposits benefited Mexico's balance of payments, it increased the overvaluation of the currency, thus discriminating against agricultural and manufacturing activities. Finally, no substantive policy changes occurred in India, which continued to lose export market shares.

Policy Prescriptions and Prospects for the Future

The experience of developing countries in the postwar period leads to certain policy prescriptions. First, while infant-industry considerations call for the preferential treatment of manufacturing activities, such treatment should be applied on a moderate scale, both to avoid the establishment and maintenance of inefficient industries and to ensure the continued expansion of primary production for domestic and foreign markets.

Second, equal treatment should be given to exports and to import substitution in the manufacturing sector, in order to ensure resource allocation according to comparative advantage and the exploitation of economies of scale. This is of particular importance in the case of intermediate goods and producer and consumer durables, where the advantages of large plant size and horizontal and vertical specialization are considerable and where import substitution in the framework of small domestic markets makes the subsequent development of exports difficult. The provision of equal incentives will contribute to efficient exportation and import substitution through specialization in particular products and in their parts, components, and accessories.

Third, infant-industry considerations apart, variations in incentive rates within the manufacturing sector should be kept to a minimum. This amounts to the application of the "market principle" in allowing firms to decide on the activities to be undertaken. In particular, firms should be free to choose their export composition in response to changing world market conditions.

Fourth, in order to minimize uncertainty for the firm, the system of incentives should be stable and automatic. Uncertainty will also be reduced if the reform of the system of incentives necessary to apply the principles just described is carried out according to a timetable made public in advance.

It has been objected that the application of these principles—characteristic of an outward-oriented development strategy—would en-

counter market limitations, aggravated by protectionist policies, in the industrial countries. To address this issue, one needs to examine recent and prospective trends in trade in manufactured goods between the industrial and the developing countries.

Notwithstanding protectionist pressures in the industrial countries, their imports of manufactured goods from the developing countries rose at a rapid rate during the period following the oil crisis, averaging 10.2 per cent a year in volume terms between 1973 and 1978. Moreover, the "apparent" income elasticity of demand for these imports, calculated as the ratio of the growth rate of imports to that of gross domestic product, increased from 3.6 in 1963-73 to 4.1 in 1973-78.

Given the increased volume of manufactured imports from the developing countries, the apparent income elasticity of demand for manufactured goods originating in these countries can be expected to decline in the future. Assuming an elasticity of 3.2 and a GDP growth rate of 3.9 per cent in the industrial countries, I have projected their imports of manufactured goods from the developing countries to rise at an average annual rate of 12.5 per cent between 1978 and 1990. This projection assumes unchanged policies in the industrial countries, including the maintenance of the Multifiber Arrangement.

If this import growth rate were realized, the share of the developing countries in the consumption of manufactured goods in the industrial countries would rise from 1.5 per cent in 1978 to 4.0 per cent in 1990, with an incremental share of 8.9 per cent. The incremental share would be the highest in clothing, 28.1 per cent; it would be 7.2 per cent in textiles and 6.6 per cent in other consumer goods. Nonetheless, the production of textiles and clothing would rise at an average annual rate of 2 per cent in the industrial countries. And these countries would have a rising export surplus in trade in manufactured goods with the developing countries, which would contribute to the growth of their manufacturing sector.

At the same time, in accordance with the "stages" approach to comparative advantage, changes would occur in the product composition of the manufactured exports of the developing countries as they proceeded to higher stages of industrial development. This process is exemplified by Japan, which shifted from unskilled-labor-intensive to skill-intensive to physical-capital-intensive exports and is increasingly expanding its technology-intensive exports.

Shifts in export composition are now occurring in the newly industrializing developing countries, including the Far Eastern and Latin-American countries that carried out policy reforms after the

mid-sixties. The Far Eastern countries that have a relatively high educational level may increasingly take the place of Japan in exporting skill-intensive products, while Latin-American countries may expand their exports of relatively capital-intensive products. Countries at lower stages of industrial development, in turn, may take the place of the newly industrializing countries in exporting products that require chiefly unskilled labor.

To the extent that the exports of newly industrializing countries replace Japanese exports, and their exports are in turn replaced by the exports of countries at lower stages of industrial development, the threat to the domestic manufacturing industries of the industrial countries is reduced. Nor does the upgrading and diversification of manufactured exports by the newly industrializing countries represent a serious threat, inasmuch as the exports of individual commodities would account for a relatively small proportion of the consumption and production of these commodities in the industrial countries. This conclusion also applies to the international division of the production process, exemplified by the development of Ford's "world car," which will entail manufacturing in nineteen countries.

It follows that it is in the interest of the newly industrializing developing countries to upgrade and diversify their exports in line with their changing comparative advantage. This is also in the interest of countries at lower stages of industrial development, as they can replace exports of unskilled-labor-intensive commodities from the newly industrializing countries to industrial-country markets.

There are also considerable opportunities for the expansion of trade in manufactured goods among the developing countries themselves. With increased oil earnings, the largely open markets of the OPEC countries will experience rapid growth. Furthermore, the newly industrializing countries can trade skill-intensive and physical-capital-intensive goods among themselves and exchange these commodities for the unskilled-labor-intensive products of countries at lower stages of industrial development.

The expansion of this trade requires the pursuit of outward-oriented strategies by the newly industrializing countries, so as to provide appropriate incentives to exports and to allow imports from other developing countries. The pursuit of such a strategy would also contribute to efficient import substitution by ensuring low-cost manufacture through international specialization and the international division of the production process. Similar conclusions apply to countries at lower stages of industrial development.

Finally, lowering protection in the industrial countries would lead to increases in their imports of manufactured goods from the developing countries over and above projected levels. This would also be in the interest of the industrial countries, properly conceived. They would benefit from shifts to high-technology products within the manufactured sector as higher export earnings permitted the developing countries to increase their imports of these products.

Trade liberalization in the industrial countries could proceed over a ten-year horizon without involving excessively large adjustment costs. One could accept, for example, a decline in the production of textiles and clothing over time that would involve not replacing the normal attrition of workers and depreciated equipment in branches that utilized largely unskilled labor. In turn, new entrants into the industrial labor force would increasingly enter technologically advanced industries where productivity levels are substantially higher.

Apart from expanding the volume of trade, then, the pursuit of appropriate policies by developed and developing countries would permit shifts in the pattern of international specialization in response to the changing structure of comparative advantage in countries at different levels of industrial development. As a result, the efficiency of resource allocation would improve and rates of economic growth would accelerate, with benefits to all concerned.



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