

Export Incentives and Export Performance in Developing Countries: A Comparative Analysis

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Author: Bela Balassa
Center: Development Research Center

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EXPORT INCENTIVES AND EXPORT PERFORMANCE
IN DEVELOPING COUNTRIES: A COMPARATIVE ANALYSIS

Bela Balassa*

January 31 , 1977

* The author is Professor of Political Economy at the Johns Hopkins University and Consultant at the World Bank. This paper was prepared in the framework of the Development Strategies in Semi-industrial Countries research project undertaken at the World Bank and directed by the author.

Successive versions of this paper were presented at the ECLA/IBRD Seminar on Export Promotion held in Santiago, Chile on November 5-7, 1976, and at a seminar held at the World Bank on January 28, 1977. The author gratefully acknowledges the useful comments made by the participants at the two seminars, and in particular by Daniel Schydrowsky and Larry Westphal. Special thanks are due to Kishore Nadkarni who collected the data and performed the computations efficiently and with great care.

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The paper provides a comparative evaluation of export incentives and their effects on exports and economic performance in eleven developing countries classified in four groups, depending on the timing and extent of their export promotion efforts. The results indicate that, in intercountry comparisons, greater export orientation in the system of incentives tends to be associated with higher export growth rates and better economic performance. Also, in individual countries, the growth of exports and GNP generally accelerated following the introduction of export promotion schemes.

Economic growth has been the most rapid in countries such as Korea, Singapore, and Taiwan, which more nearly conform to the "ideal" system of incentives described in Section III of the paper. The three countries provided a free trade regime for exports and ensured stability in the incentive system over time. They also granted comparable incentives to exports and to import substitution in manufacturing while there was little discrimination in primary activities.

The paper has also considered the possibilities for the future growth of exports by the developing countries. It is suggested that the small share of developing countries in the imports and the domestic consumption of manufactured goods in the developed as well as in the oil producing countries indicate the potential for rapid expansion. Further gains could be obtained if the developed nations lowered protective barriers to the imports of manufactured goods.

This paper was prepared by Bela Balassa, Professor of Political Economy, The Johns Hopkins University, and Consultant to the World Bank, in the framework of the Development Strategies in Semi-Industrial Countries research project undertaken under the auspices of the World Bank and directed by the author. Successive versions of this paper were presented at the ECLA/IBRD Seminar on Export Promotion held in Santiago, Chile on November 5-7, 1976, and at a seminar held at the World Bank on January 28, 1977. The author gratefully acknowledges the useful comments made by participants at the two seminars, and in particular by Daniel Schydrowsky and Larry Westphal. Special thanks are due to Kishore Nadkarni who collected the data and performed the computations efficiently and with great care.

EXPORT INCENTIVES AND EXPORT PERFORMANCE
IN DEVELOPING COUNTRIES: A COMPARATIVE ANALYSIS

Bela Balassa

Introduction

The purpose of this paper is to provide a comparative evaluation of export incentives and their effects on exports and economic performance in eleven major developing countries. The discussion will concentrate largely on the experience of the 1966-73 period, when the export incentive schemes of the individual countries were generally in full operation. 1973 was chosen as the terminal year because of the effects of the oil crisis in subsequent years.

The countries under consideration include Argentina, Brazil, Chile, Colombia, Mexico, Israel, Yugoslavia, India, Korea, Singapore, and Taiwan. They have been classified in four groups, depending on the timing and the extent of their export promotion efforts. In 1973, these countries accounted for 68 percent of the exports of manufactured goods by the developing countries.^{1/} Another 16 percent came from Hong Kong that started exporting manufactures at an earlier date; no other developing country accounted for more than three percent of the total.

The countries of the first group, consisting of Korea, Singapore, and Taiwan, adopted export-oriented policies following the completion of the first stage of import substitution that had entailed replacing the imports of non-durable consumer goods and their principal direct inputs by domestic production. These countries provided a free trade regime for exports, with some additional subsidies.

^{1/} The developing country group has been defined to include the countries of Latin America, Africa (other than South Africa), Asia (other than Japan), and Yugoslavia.

The second group of countries, comprising Argentina, Brazil, Colombia, and Mexico, began export promotion efforts after continued import substitution in the framework of national markets had run into increasing difficulties. They provided various subsidies to exports, but by-and-large precluded the use of imported inputs in export production whenever domestic substitutes were available.

In turn, countries in the third group (Israel and Yugoslavia) had started export promotion at an early date but their efforts slackened somewhat afterwards. Finally, India and Chile, classified in the fourth group, continued to pursue import substitution-oriented policies during the period under consideration.

In carrying out the comparative analysis, the author has relied on the results of studies prepared for the ECLA/IBRD Seminar on Export Promotion on Argentina, Brazil, Colombia, Mexico, Israel, Yugoslavia, India, and Korea. He has also utilized the findings of studies prepared under the auspices of the World Bank on Brazil, Chile, and Mexico^{1/} and on Argentina, Colombia, Israel, Korea, Singapore, and Taiwan,^{2/} as well as the results of some other researchers.

Section I of the paper briefly describes the export promotion efforts of the individual countries, the resulting changes in their incentive system, and the situation existing in 1973. In turn, Section II evaluates the effects of these efforts on exports, sectoral growth, and the growth of the national economy. Next, Section III makes recommendations for an "ideal"

1/ Bela Balassa and Associates, The Structure of Protection in Developing Countries, Baltimore, Md., Johns Hopkins University Press, 1971.

2/ Development Strategies of Semi-Industrial Countries, research project of the World Bank, directed by Bela Balassa (in preparation).

system of incentives to exports and for resource allocation in general. Finally, in drawing the conclusions of the paper, attention is given to future possibilities for the exports of manufactured goods by the developing countries.

I. Export Incentives in Developing Countries

Apart from the city-state of Hong Kong, where industrialization began in the framework of an open economy, export promotion policies generally followed some degree of import substitution in the protected domestic market. The sequencing of import substitution and export promotion varied among countries, depending on objective conditions and on the subjective evaluation of alternative possibilities by the policy makers. While *ex post facto* there is often a tendency to explain differences in policies by reference to objective conditions, as it will be seen below governmental decision making has played an important role in the cases studied.

It has been repeatedly claimed that objective conditions forced the two city-states, Hong Kong and Singapore, to orient their manufacturing industries towards export markets. In support of this proposition, it has been stated that "Hong Kong and Singapore are almost totally lacking in natural resources. Unlike the developing nation-states of Asia, Africa, and Latin America, the two city-states do not have their own rural hinterlands. Nor do they have domestic markets large enough to serve as the initial base for industrialization."^{1/}

Indeed, the lack of natural resources and of an agricultural base have made it necessary for Hong Kong to rely on exports of manufactured goods to earn foreign exchange. However, with its population of two million in 1950 and four million in 1970, and relatively high per capita incomes, Hong Kong had a larger domestic market for manufactured goods than the great majority of

^{1/} Theodore Geiger, Tales of Two City-States: The Development Program of Hong Kong and Singapore, Washington, National Planning Association, 1973, p. 8.

the developing countries, many of which nevertheless embarked on industrialization behind high protective barriers. In this connection, mention may be made of the experience of Tunisia which, with a home market smaller than that of Hong Kong, attempted to provide for domestic needs in scaled-down local plants that were ensured continued protection.^{1/}

Hong Kong, too, could have chosen a policy of covering minimum foreign exchange needs by manufactured exports and relying on domestic markets for the establishment of a wide range of industries behind protection. The policy makers should thus be given their due for the choice of the policies applied, which led to export and income growth rates that were matched by few developing countries.

Also, it should be recognized that Singapore went through an import-substitution phase aimed at establishing domestic industries serving the home market. According to an official report, "In pursuance of the policy of providing protection to industries in Singapore, the import of a number of goods which were in various stages of manufacturing locally or which were likely to be manufactured in the near future, was made subject to quota restrictions."^{2/} In contradistinction with most other developing countries, however, protection was considered temporary, with quotas to be superseded by tariffs that, in turn, were to be lowered and eventually eliminated.^{3/}

In fact, the number of commodities subject to quotas and tariffs was reduced to a considerable extent following the short import-substitution phase which covered the second half of the sixties; by 1972, only three items remained under quota while tariffs were eliminated on a number of commodities and reduced on others. In turn, exports enjoyed a free-trade regime as imported

1/ Phillipe Aydalot, Essai sur les problèmes de la stratégie de l'industrialisation en économie sous-développée: l'exemple tunisien, Tunis, 1968.

2/ Department of Trade, Ministry of Finance, Annual Report, 1968, p. 38.

3/ Ibid., p. 40.

inputs used in export production were admitted duty free without any limitations. Exports have received additional incentives in the form of tax allowances on marketing expenditures abroad since 1965 and tax concessions on profits, royalties, and interest on foreign loans since 1967.

Import substitution was selective in Singapore and rates of protection were much lower than in the other industrializing countries.^{1/} In turn, Taiwan and Korea completed the first "easy" stage of import substitution, entailing the replacement of the imports of non-durable consumer goods and their principal direct inputs, behind higher protective barriers. Following this stage, around 1960, the decision was reached in both countries to adopt outward-looking policies oriented towards the exportation of labor-intensive products.^{2/}

The decision on policy changes in Korea and Taiwan was taken with a view to accelerate economic growth in a situation where continued import substitution in the framework of national markets would have been increasingly costly. Nevertheless, the element of conscious decision should be emphasized as Korea, with a population of 25 million and Taiwan with a population of 10 million, had domestic markets for manufactured goods larger than most developing countries, including several countries which continued with policies of import substitution beyond the first "easy" stage. Also, while the availability of a well-educated labor force is said to have eased the transition to export orientation, educational levels were higher in countries such as Argentina, Chile, and Uruguay that went further with import substitution than Taiwan and Korea.

^{1/} In 1966, effective protection rates on domestic sales averaged 8.6 percent (Augustine Tan and Ow Chin Hock, "Singapore", Development Strategies in Semi-Industrial Countries).

^{2/} Bela Balassa, "Industrial Policies in Taiwan and Korea," Weltwirtschaftliches Archiv, 1971 (1), pp. 55-76.

In Taiwan, an overhaul of the system of incentives took place in the years 1958-61 when the multiple exchange rate structure was replaced by a single exchange rate and the import quota system was liberalized. In Korea, the changeover occurred in two stages, in 1961 and in 1964, of which the second was by far the more important.

As in Singapore, a free-trade regime was applied to exports in the two countries, supplemented with some additional incentives. Exporters had the freedom to choose between domestic and imported inputs, they were exempted from indirect taxes on their output and inputs, and 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 assured the equality of treatment to all export commodities in both Korea and Taiwan. Nor did the additional incentives provided to non-traditional exports introduce much differentiation among industries as far as the treatment of exports is concerned. At the same time, the automatic application of the regulations and the favorable attitude taken by the two governments towards exports enhanced the effectiveness of the incentive measures.

In Korea, the subsidy equivalent of the export incentive measures, including generous wastage allowances, reductions in indirect taxes, credit preferences, and preferential electricity and railroad rates, amounted to 12.4 percent of value added in manufactured exports in 1968. On the average, exports were favored over domestic sales that were subject to negative effective protection.^{1/} Unlike other industrializing countries, there was no

^{1/} Larry E. Westphal and Kwang Suk Kim, "Korea", Development Strategies in Semi-Industrial Countries -- Wastage allowances were provided for the free importation of inputs in excess of the needs of export production.

discrimination against primary activities either. Finally, while the export incentive scheme underwent few modifications between 1968 and 1973, successive changes in currency values exceeding in magnitude the relative increases in Korean prices improved the profitability of exports.^{1/}

In Taiwan, reductions in direct taxes, preferential credits, facilities for the rapid collection of export proceeds, and direct subsidies to the exports of several commodities provided a net subsidy on value added in manufactured exports in 1968 slightly exceeding in magnitude protection on value added in import substitution.^{2/} Also, the incentive system was stable and the extent of discrimination against primary production was small in Taiwan.

The second group of countries, comprising Argentina, Brazil, Colombia, and Mexico, continued with import substitution beyond the completion of its first, easy, stage. However, import substitution became increasingly costly as it came to encompass industries that were highly capital-intensive and could not produce at an efficient scale and/or use capacity fully because of the limited size of domestic markets.

At the same time, given the need for imported raw materials, intermediate products, and machinery, net import substitution was rather small. The adverse effects on exports of the policies followed further aggravated

^{1/} Bela Balassa, "Incentives for Economic Growth in Korea," Policy Reform in Developing Countries, Ch. 9 (forthcoming)

^{2/} T. H. Lee and Kuo-shu Liang, "Taiwan", Development Strategies in Developing Countries.

the balance-of-payments situation in these countries. The resulting foreign exchange bottleneck limited the possibilities for economic growth and led in some cases to the application of stop-and-go policies.^{1/}

Exports offered a way to break the foreign exchange bottleneck while leading to the increased use of existing capacity, the application of large-scale production methods, and resource allocation according to comparative advantage. The desire to accelerate economic growth thus explains the adoption of export promotion policies in the countries in question. And, as foreign exchange receipts from exports increased, the need for the depreciation of the currency diminished, thereby reducing the protective effects of existing tariffs. Import protection decreased further as tariffs were reduced and import quotas liberalized following the increase of foreign exchange earnings.

Among the countries of the second group, the shift to export promotion started in Colombia in 1959 with the introduction of the Plan Vallejo that provided duty-free entry for imported inputs used in export production on a selective basis. The Plan Vallejo came into general application for manufactured exports in the mid-sixties, but it continued to be largely limited to inputs that were not available domestically. In turn, beginning in 1960, non-traditional exports (excluding coffee and petroleum) were exempted from taxes on profits presumed to equal 40 percent of export value. In 1967, this exemption was replaced by a transferable tax certificate equal to 15 percent

^{1/} According to Angel Monti, "the four countries studied showed that there was instability, and in some cases, a chronic deficit in the balance of payments. This caused many adverse consequences. In Argentina, it was an important factor in causing the pattern of growth to show a typical "stop-go" behaviour. In Brazil it has already influenced the rate of growth. In Colombia, effects have been felt, including political effects. In Mexico it has caused a strong need for an inflow of foreign capital, thus aggravating the medium-term problem" (Latin American Exports of Manufactures: Experiences and Problems," paper prepared for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976).

of the value of non-traditional exports. Adjusted for the tax free value of the certificates and the discount at which they were traded, the subsidy on export value was 18 percent. Exporters also had access to credits at preferential rates. Moreover, starting in 1967, the exchange rate was adjusted in small steps in accordance with the rate of domestic inflation, thereby maintaining the real exchange rate constant.^{1/}

However, exporters had to pay high prices for domestically-produced inputs. Given further the protection provided to sales in the domestic market, in 1969 a bias against exports and in favor of import substitution obtained for intermediate products at higher levels of fabrication, consumer goods, machinery, and transport equipment, although this was not the case for processed foods and lower level intermediate products. Also, export subsidies expressed in relation to value added varied to a considerable extent among industries.^{2/}

In Colombia, the reforms undertaken in the mid-sixties represented an extension of the export promotion scheme introduced around 1960. In turn, in Brazil and Argentina, major changes in the incentive system did not occur until the mid-sixties. Apart from the introduction of export incentives, both countries also instituted frequent exchange rate adjustments *pari passu* with inflation that reduced uncertainty in foreign sales by keeping the real exchange rate constant.

In the period 1965-67, Brazil generalized indirect tax exemptions on processed exports (processed foods and minerals and manufactured

^{1/} Thomas Hutcheson and Daniel M. Schydrowsky, "Colombia", in Development Strategies in Semi-Industrial Countries and Ricardo Ffrench-Davis and Jose Pinera Echenique, "Colombia Export Promotion Policy," paper presented for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976.

^{2/} Hutcheson and Schydrowsky, "Colombia",

products) and their inputs and duty drawbacks on imported inputs used in export production, which had been provided on a partial basis in the first half of the sixties. Exemptions from indirect taxes do not represent "genuine" subsidies since they only reestablish the equal tax treatment of production for foreign and for domestic markets. Nevertheless, these measures increased incentives to exports vis-à-vis import substitution compared to the situation when tax exemptions were not provided.

In the late sixties, generous export subsidies were also granted in the form of tax credits, reductions in income taxes, and preferential export financing. Excluding duty drawbacks and rebates of indirect taxes, in 1971 the subsidy equivalent of tax benefits averaged 20 percent on Brazilian exports of processed goods, to which three percent for the subsidy equivalent of preferential financing should be added.^{1/} Some additional incentives were introduced in 1972 and 1973.

But Brazilian exporters did not generally have the choice between domestic and imported inputs; apart from some exceptions introduced in the early seventies, they had access to duty free imports only if a domestic "similar" was not available. In the absence of data on the input composition of exports and on the protection of domestic inputs, then, incentives to exports on a value added basis could not be estimated.

At the same time, notwithstanding reductions in tariffs after 1966, the average tariff on the imports of manufactured goods (48 percent in 1970) continued to exceed the average subsidy to exports.^{1/} This conclusion is not affected if we adjust for price comparisons for capital goods and intermediate products in order to take account of the effects of tariff redundances and quantitative restrictions. Thus, on the average, there remained a bias against exports, albeit to a much lower extent than previously.

1/ Hector A. Garcia, "Brazil's Development Policy for Exports of Manufactures", paper prepared for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976, pp. 105-8.

2/ Ibid, p. 105 -- Joel Bergsman and Pedro S. Malan "Brazil", (The Structure of Protection in Developing Countries) and Joel Bergsman, "Foreign Trade Policy in Brazil" February 1971, mimeo.

Furthermore, given the variability of subsidies on export value, ranging from 6 percent on petroleum products to 38 percent on beverages, wood products and furniture, and "miscellaneous" manufactures, ^{1/} and inter-industry differences in tariffs, relative incentives to import substitution and exports in the manufacturing sector varied greatly. And, which from the late sixties Brazil promoted some agricultural exports, on the whole discrimination against primary activities continued.

In Argentina a 12 percent subsidy was granted to non-traditional exports in 1967 while the export tax on grains, livestock, and their derivatives was maintained at 10 percent. The 12 percent subsidy was provided in the form of a tax reimbursement and was not subject to income taxes, thereby raising its value to 17 percent on a pre-tax basis. An additional subsidy of 3 percent was provided in the form of income tax deductions. Furthermore, exporters received subsidies theoretically representing drawbacks for tariffs paid on imported inputs that were set on an industry-by-industry basis. Finally, exporters had access to preferential credits.

However, in the case of most major industries, these subsidies did not suffice to offset the high cost of domestic inputs used in export production. Discrimination against exports was further augmented by the high protection accorded to import substitution, leading to a considerable bias against exports. This bias was especially strong in the case of primary products. At the same time, similar to the case of Brazil, there were large interindustry variations in the extent of export subsidies and import protection on a value added basis.^{2/}

^{1/} Garcia, "Brazil's Development Policy for Exports of Manufactures," p.108. The figures exclude the subsidy value of credit preferences

^{2/} Julio Berlinski and Daniel M. Schydrowsky, "Argentina," Development Strategies in Semi-Industrial Countries.

Finally, in both countries, and with regard to the Plan Vallejo in Colombia as well, discretionary decision-making on export incentives had a much greater role than in countries of the first group.

In Mexico, border industries processing imported materials for re-export, principally to the United States, were accorded duty free treatment beginning in the mid-sixties. In turn, there were few subsidies to domestic export industries until 1971 when a tax rebate scheme was introduced, together with a system of preferential export credits. In 1973, tax rebates amounted to 8.5 percent of the value of manufactured exports but, to a large extent, they represented rebates of indirect taxes paid at earlier stages of fabrication. In turn, the subsidy equivalent of preferential export credit amounted to 1.5 percent of export value^{1/}. On a selective basis, exporters also could import inputs duty free, but this was in practice administratively difficult and did not apply to inputs that were produced domestically. Nor did the benefits provided extend to primary commodities.

In turn, Israel and Yugoslavia were among the first to introduce export incentives. In Israel, the system of export incentives was unified in 1956 when a uniform subsidy was applied on value added in exports, excluding the traditional export commodities (citrus and diamonds). Nevertheless, some additional subsidies remained, including the so-called branch funds for the textile industry, preferential credits, and tax refunds on promotional expenditures.

In 1962, the across-the-board subsidies were transformed into a higher exchange rate, the effects of which wore off by 1965 so that there

1/ Bela Balassa, "Foreign Trade and Industrial Policy in Mexico", Policy Reform in Developing Countries, Ch. 2.

was a considerable degree of discrimination against exports and in favor of import substitution in that year.^{1/} In 1966, explicit export subsidies were introduced again at rates exceeding average tariffs. In subsequent years, however, tariffs were generally higher than export subsidies and the protection of import substitution was raised further by the continued existence of import licensing on a variety of commodities. And, exporters in Israel had to pay duties on their inputs and did not receive preference in the granting of import licenses.^{2/}

In Yugoslavia, retention quotas on foreign exchange earned through exporting and multiple exchange rates were used to provide incentives to exports until 1961; in 1957, the average exchange rate for exports was about 40 percent higher than that for imports. The multiple rate system was transformed into a system of subsidies and tariffs in 1961 and export subsidies were abolished in 1965. Subsequently, benefits to exports were limited to foreign exchange retention quotas on exports and to preferential export credits. However, the retention quotas amounted to only 1.8 percent of exports and, with the liberalization of import restrictions, their value decreased greatly. In turn, imports continued to benefit from tariff protection albeit at a reduced extent.^{3/}

The fourth group of countries continued to follow policies of import substitution, entailing a considerable degree of discrimination against exports, during the period under consideration. In India,

1/ Zvi Sussman, "Israel," Development Strategies in Semi-Industrial Countries.

2/ Ibid. and Michael Michaely, "Export Promotion in Israel," paper prepared for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976.

3/ Vinod Dubey, "Yugoslavia: Commodity Exports and Export Policies," paper prepared for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976.

the 1966 devaluation of the rupee was supposed to benefit exports but, with reductions in export subsidies and increases in export taxes accompanying the devaluation, discrimination in favor of import substitution and against exports increased as a result.^{1/} The incentive measures introduced subsequently, including cash subsidy, duty drawbacks, import replenishment licenses, and preferential licensing for capacity expansion were in general subject to complex procedures and considerable uncertainty as to their extent and availability. Also, the cash subsidy was apparently related to the excess variable costs of domestic production over export prices, so that high-cost exports received above-average subsidies while the lowest rates applied to exports that had relatively low domestic costs.^{2/}

The situation was aggravated by restrictions on the transferability of the import replenishment licenses and the virtual exclusion of imports that had domestic substitutes. The limitations imposed on firm size and on the expansion of large firms also militated against the development of manufactured exports. In turn, major primary exports and traditional manufactured export products were subject to export taxes.

Considering further the continued protection of manufacturing industries by the use of import prohibitions and restrictions, it would appear that India largely maintained its import-substitution orientation during the period under consideration. Changes occurred, however, towards the end of the period as India devalued the rupee *pari passu* with the depreciation of the British pound.

^{1/} Bhagwati, J.N. and Srinivasan, T.N., Foreign Trade Regimes and Economic Development; India, New York, National Bureau of Economic Research, 1975, ch. 6.

^{2/} Martin Wolf, "Indian Exports", paper presented at the IBRD/ECLA Seminar on Export Promotion Policies, November 1976.

Chile traditionally had the highest level of import protection in Latin America.^{1/} The high level of protection entailed considerable discrimination against exports and penalized the processing of domestic materials for exports in which Chile has a comparative advantage. The introduction of tax rebates on non-traditional exports and import liberalization in the late sixties reduced this bias to some extent. However, the measures applied were largely reversed after 1970 when severe import restrictions and a greatly over-valued exchange rate had adversely affected exports.

^{1/} Teresa Jeanneret, "Chile", The Structure of Protection in Developing Countries.

II. Export Performance and Economic Growth

Export Incentives and Performance

There are few econometric studies of the effects of export incentives on export performance. This fact reflects the difficulties of establishing a statistical relationship between the two variables. In a time-series framework, the shortness of the time series, the lack of observations on changes in incentives to import substitution that provides an alternative to exports, and the difficulties involved in quantifying the effects of other influences on exports make estimation difficult. In turn, in a cross-section framework, the lack of stability of the incentive system and lags in adjustment to incentives create problems in statistical estimation.

Nevertheless, studies available for several of the countries under consideration show the existence of a positive relationship between export incentives and export growth. In a cross-section investigation of 92 sectors in Korea, Westphal and Kim obtained correlation coefficients of .29 and .26 between export incentives in 1968 on the one hand, and the share of exports in output in 1968 and the growth contribution of exports between 1960 and 1968 on the other; the coefficients are significant at the one percent level.^{1/} In turn, French-Davis and Pinera cite several time-series estimates for Colombia, which indicate an elasticity of non-traditional exports with respect to incentives of 0.7 to 1.3, although the statistical significance

^{1/} "Korea," Development Strategies in Semi-Industrial Countries.

of the results is low. ^{1/} Finally, an elasticity of 1.3 was obtained in time series studies on Israel by Halevi ^{2/} and on Brazil by Tyler ^{3/} and in pooling time series and cross-section data for eight countries by Krueger. ^{4/}

These estimates may be considered to provide lower limits of possible values, in part because of the downward bias resulting from the use of least-squares method and in part because of the difficulties of capturing the lagged effects of the introduction of export incentives. Given the difficulties of statistical estimation, in the following we would rely on a comparative analysis of export trends in the four groups of countries covered in this paper.

In the discussion, distinction will be made between primary and manufactured exports and, within the former category, between traditional and non-traditional exports. Primary exports are defined to include SITC classes 0 to 4 as well as diamonds and unwrought non-ferrous metals. In turn, primary commodities that accounted for at least two percent of total exports in 1953 have been classified among traditional export products (cf. Appendix Table 1). For subsequent comparisons with data on agricultural production, the exports of agricultural goods, including livestock, fishery, and forestry products, will further be distinguished.

^{1/} "Colombia Export Promotion Policy," pp. 88-90.

^{2/} The study, published in Hebrew, is cited in Michaely, "Export Promotion Policies in Israel," p.30.

^{3/} W.G. Tyler, Manufactured Export Expansion and Industrialization in Brazil, Tubingen, J.C.B. Mohr 1976, Ch. 8.

^{4/} Anne O. Krueger, Foreign Trade Regimes and Economic Development-- Liberalization Attempts and Consequences, New York, National Bureau of Economic Research, 1977, Ch.9. -- In these studies, incentives to exports have been expressed by combining export exchange rates and export subsidies; using export exchange rates alone generally did not provide statistically significant results. Cf. J.B. Donges and J. Riedel, "The Expansion of Manufactured Exports in Developing Countries: An Empirical Assessment of Supply and Demand Issues," Kiel Working Papers No. 49, Kiel, Institut fur Weltwirtschaft, June 1976.

Data on the dollar value of exports and on the rate of growth of exports for the above groups of commodities and for total exports are shown in Appendix Table 2 and Table 1, respectively. The export data refer to the years 1953, 1960, 1966, and 1973; growth rates have been calculated for changes between these benchmark years. In the discussion, emphasis will be given to the experience of the period 1966-73, when the export incentive schemes of most of the countries concerned were in full operation. Attention will further be paid to the 1960-66 period as several countries began their export production efforts in the early sixties.

Export growth rates are affected by the absolute value of exports in the base year. This is of particular importance for manufactured goods in the 1960-66 period since the countries in question generally started from a low base. Correspondingly, we also calculated the share of exports in manufactured output for the benchmark years, as well as incremental export-output ratios, defined as the ratio of the increment in manufactured exports to that in manufactured output (Table 2). For comparability with the trade figures, manufactured output has been defined by deducting processed food (ISIC 311,312), beverages (313), tobacco manufactures (314), refined petroleum (353), coal and petroleum products (354), unwrought nonferrous basic metals (ex 372), and diamonds (ex 390) from the output figures reported according to the International Standard Industrial Classification.

Data expressed in the form of ratios have the further advantage in that they have been calculated using the prices of the same year. By contrast, in estimating export growth rates, current price data have been used. In the absence of national price indices for the relevant product groups in most developing countries, we had to forego the use of constant price values.

TABLE 1

GROWTH OF THE VALUE OF EXPORTS AND IMPORTS IN SELECTED DEVELOPING COUNTRIES
(Average Annual Growth Rates)

	Argentina	Brazil	Chile	Colombia	India	Israel	Korea	Mexico	Singapore	Taiwan	Yugoslavia
Traditional											
Primary products											
1953-60	0.7	-5.3	4.3	-4.5	2.4	16.8	-17.5	-0.3	-	-3.2	3.6
1960-66	6.7	2.0	9.5	-0.5	0.3	15.2	26.5	3.8	-	8.0	11.6
1966-73	6.9	7.6	5.1	6.5	0.2	16.7	16.9	1.7	-	1.2	12.5
Nontraditional											
Primary products											
1953-60	-3.4	5.4	-5.6	11.9	5.6	47.0	7.1	12.2	n.a.	12.7	19.6
1960-66	3.6	9.6	11.3	5.9	9.2	16.8	22.5	10.3	29.5	36.5	2.3
1966-73	14.0	26.5	7.6	25.5	10.4	16.9	35.5	6.3	19.5	25.0	11.1
Primary products together											
1953-60	0.2	-3.1	2.5	-3.5	3.7	20.5	-5.4	3.8	n.a.	-1.2	12.4
1960-66	6.3	4.7	9.7	0.3	4.5	15.5	24.0	6.9	29.5	17.3	5.7
1966-73	7.8	17.0	5.5	10.7	6.5	16.8	26.0	4.3	19.5	17.0	9.8
Of which, Agricultural goods											
1953-60	0.2	-3.5	-9.0	-4.8	3.9	18.3	-3.2	5.4	n.a.	-2.1	14.5
1960-66	6.2	4.5	22.5	1.0	3.7	9.5	25.2	7.7	2.9	15.6	6.7
1966-73	7.9	16.7	2.7	11.1	9.5	11.7	29.5	5.7	19.2	16.3	9.8
Manufactured goods											
1953-60	-11.7	9.9	3.2	0.0	1.3	18.0	14.0	5.6	n.a.	29.5	28.0
1960-66	14.6	27.5	15.6	35.0	6.7	15.3	80.0	12.7	24.5	36.5	21.5
1966-73	33.5	38.5	0.0	27.5	7.7	17.5	50.0	20.0	42.0	47.0	14.9
Total Exports											
1953-60	-0.6	-2.8	2.6	-3.4	2.6	19.6	-3.2	3.9	n.a.	2.2	17.2
1960-66	6.7	5.4	10.1	1.5	5.5	15.3	40.0	7.8	28.5	23.5	13.6
1966-73	10.8	19.9	5.3	12.7	7.0	17.0	44.0	8.1	28.5	35.5	13.8
Total Imports											
1953-60	6.7	1.5	5.9	-3.6	9.8	8.5	0.0	5.6	n.a.	6.2	11.1
1960-66	-1.8	0.4	6.9	3.7	5.4	8.8	13.0	6.9	8.0	13.1	11.3
1966-73	10.3	24.5	5.7	6.7	-0.3	20.0	29.0	14.5	25.5	29.5	17.2
Purchasing power of Exports (a)											
1960-66	4.0	4.0	8.8	0.2	4.2	13.0	38.0	6.5	26.5	22.5	12.9
1966-73	4.9	13.5	-0.6	6.7	1.2	10.2	36.5	2.3	21.5	28.5	7.7

Source: National and International Trade Statistics

Note: (a) Export values deflated by the unit value index for the manufactured goods exports of developed countries.

To begin with, the unit value index for the manufactured exports of the developed countries was not considered appropriate to deflate export values, since this index is heavily weighted with machinery and equipment, the prices of which rose more rapidly than those of developing country exports. In turn, price indices for the miscellaneous group of non-traditional primary exports are not available. Finally, our analysis only tangentially affects the exports of traditional primary products where price fluctuations have been the largest.

At the same time, for evaluating the implications of increased foreign exchange earnings on economic growth, changes in the purchasing power of exports (i.e., export values deflated by an import price index) rather than in export volumes are relevant. Changes in the purchasing power of exports have been calculated by deflating export values by the unit value index for the manufactured exports of the developed countries. The results, shown in Table 1, will be utilized below.

We have seen that the first group of countries, comprising Korea, Singapore, and Taiwan, adopted export-oriented policies following the completion of the first stage of import substitution. These policies entailed applying a free-trade regime to non-traditional exports, with additional incentives provided to manufactured exports largely on an across-the-board basis, and considerable stability in incentives assured over time. Also, on the average, incentives to exports were at the least comparable in magnitude to the incentives accorded to import substitution in manufacturing and there was little discrimination against primary activities.

The early application of export-oriented policies by the countries of the first group may explain that they had the highest incremental export-output ratios in manufacturing during the period 1960-66. With the subsequent intensification of their export promotion efforts, all three countries further increased their incremental export-output ratios in the 1966-73 period and experienced the highest rates of growth in manufactured exports among the eleven countries under study.

TABLE 2

- 19a -

EXPORTS, IMPORTS, MANUFACTURED OUTPUT AND GNP IN SELECTED DEVELOPING COUNTRIES
(Percent)

	Argentina	Brazil	Chile	Colombia	India	Israel	Korea	Mexico	Singapore	Taiwan	Yugoslavia
Share of manufactured exports in manufactured output											
1960	0.8	0.4	3.0	0.7	9.7	7.9	0.9	2.6	11.2	8.6	10.8
1966	0.9	1.3	4.1	3.0	9.4	12.8	13.9	2.9	20.1	19.2	13.8
1973	3.6	4.4	2.5	7.5	8.6	14.1	40.5	4.4	42.6	49.9	16.9
Incremental ratio of manufactured exports to manufactured output											
1960-66	1.0	3.6	5.5	7.7	8.9	23.9	24.8	3.2	28.4	24.8	15.8
1966-73	6.5	5.6	0.0	11.4	7.7	14.9	45.7	5.5	47.5	56.4	19.5
Share of manufactured imports in total utilization of manufactured goods											
1960	14.6	10.8	26.3	30.8	19.3	28.5	24.4	19.6	56.2	28.5	22.0
1966	6.3	7.5	21.6	28.0	16.5	32.8	26.5	16.2	53.2	29.3	17.3
1973	5.4	13.0	17.5	21.5	9.5	41.2	35.9	15.2	64.3	38.9	24.0
Incremental ratio of manufactured imports to utilization of manufactured goods											
1960-66	-3.9	-3.0	14.1	20.5	10.4	42.5	31.9	11.7	49.2	30.5	13.6
1966-73	4.4	15.7	10.8	14.2	-0.4	45.1	40.4	14.4	67.0	42.2	29.4
Ratio of total exports to GNP											
1960	8.9	6.1	12.6	11.3	4.2	8.4	1.5	6.4	9.9	9.5	22.4
1966	7.3	7.1	15.7	9.5	4.2	12.8	6.5	5.4	26.6	17.1	14.2
1973	8.1	9.8	7.6	11.8	4.3	15.5	26.1	4.3	44.6	47.8	14.5
Incremental ratio of total exports to GNP											
1960-66	5.3	12.3	23.0	3.4	4.1	20.4	13.0	4.3	52.0	24.7	10.7
1966-73	9.0	11.5	3.3	14.5	4.3	17.4	34.8	3.3	52.0	63.3	14.8
Ratio of total imports to GNP											
1960	10.3	7.1	12.9	12.6	7.5	20.1	16.0	9.0	65.4	18.9	32.8
1966	5.2	6.1	13.5	12.6	7.4	21.2	18.7	7.2	62.5	19.9	18.3
1973	5.5	11.1	6.8	10.6	4.5	30.8	34.3	8.6	91.5	40.5	22.0
Incremental ratio of imports to GNP											
1960-66	-1.3	0.9	14.9	12.4	7.3	23.0	22.2	5.1	57.9	20.8	12.3
1966-73	6.0	14.2	2.4	8.4	-0.3	37.3	41.3	9.7	103.6	50.8	26.4

Sources: See Table 1 and Appendix Table 2.

The data also show an acceleration of the growth of manufactured exports in Singapore and in Taiwan after 1966. And although in Korea the rate of growth of manufactured exports had been even higher during the 1960-66 period, this had been attained starting from a base year figure of \$5 million as compared to manufactured exports of \$151 million in 1966 that exceeded exports by any country in South America in that year. Correspondingly, the share of exports in manufactured output tripled in Korea; it was 13.9 percent in 1966 and 40.5 percent in 1973. In the same period, Singapore raised the share of exports in manufactured output from 20.1 to 42.6 percent and Taiwan from 19.2 to 49.9 percent.

The high, and increasing, share of manufactured exports in total exports did not adversely affect the exports of primary commodities in the three countries. In 1966-73, Korea showed the best performance in regard to traditional as well as non-traditional primary exports among the eleven countries under study. And, while shifts to higher-valued crops led to a decline in its traditional exports of rice and bananas, Taiwan placed among the countries with the highest rate of growth of non-traditional primary exports. In the case of both countries, the relatively favorable treatment of primary activities helped exports; in turn, the rapid expansion of petroleum refineries led to the high rate of growth of primary exports from Singapore.

In contradistinction to the first group, the second group of countries began export-promoting efforts after import substitution had been extended to capital-intensive intermediate products, durable consumer goods and machinery. They also differ from the first group in that, with few exceptions, the use of imported inputs was limited to cases when comparable domestic inputs were not available. Correspondingly, substantial inter-industry differences were observed in regard to subsidies to value added in exports and, on the whole, the bias against exports and in favor of import

substitution was reduced but not eliminated. Apart from Colombia and, in the case of a few products, Argentina and Brazil, the second group of countries also continued to discriminate against primary activities.

Within this group of Latin American countries, in the 1966-73 period manufactured export growth rates were the highest in Argentina and Brazil that introduced considerable export incentives at the beginning of the period. Apart from the increased use of existing capacity, these incentives gave impetus to the establishment of new facilities for export production while in the preceding period exports mostly took up the slack in domestic production.

As a result, between 1966 and 1973, the share of exports in manufactured output rose from 0.9 percent to 3.6 percent in Argentina and from 1.3 percent to 4.4 percent in Brazil. However, in terms of both average and incremental export-output ratios in manufacturing, Argentina and Brazil were surpassed by Colombia that started export promotion at an earlier date; exports from Colombia accounted for 3.0 percent of manufacturing output in 1966 and 7.5 percent in 1973.

In Mexico's case, the proximity of the United States rather than incentives to exports was responsible for the 2.9 percent share of exports in manufactured output in 1966. With the late introduction of export incentives and their relatively low level, however, the rate of growth of manufactured exports and the incremental export-output ratio in manufacturing were lower in Mexico than in the other three countries of the group during the period 1966-73. As a result of these changes, Mexico exported 4.4 percent of its manufactured output in 1973.

These figures include only "domestic" manufactured exports. In turn, Mexico's exports from the border area, which enjoyed a free trade regime, rose from practically nil in the mid-sixties to \$651 million in 1973, of which \$286 million was value added in Mexico. This compares with domestic manufactured exports of \$740 million in 1973. At the same time, taking account of

the use of direct and indirect imported inputs in machinery exports, the use of exportable inputs in textiles and chemicals, and the relatively high cost of domestic operations^{1/} value added in world market prices (net foreign exchange earnings) in domestic manufactured exports may not have been higher -- and may have actually been smaller -- than in exports from the border zone.

Apart from Colombia, the manufacturing sector is considerably larger in countries of the second group than in the first (Appendix Table 2). Nevertheless, with the exception of the Brazil -Singapore comparison, they have a substantially smaller volume of manufactured exports. The relevant figures for 1973 are Taiwan, \$3606 million; Korea, \$2711 million; Brazil, \$1229 million; Singapore, \$1001 million; Mexico, \$740 million; Argentina, \$736 million; and Colombia, \$228 million.^{2/}

It has been suggested that these figures overstate the relative importance of exports in the countries of the first group that rely to a considerable extent on imported inputs in their export industries. However, as noted in the case of Mexico, due to the use of direct and indirect imported inputs, that of exportable inputs, and the relatively high cost of domestic operations, the share of value added in world market prices, or net foreign exchange earnings, in the manufactured exports of the second group of countries may not exceed the corresponding shares in the countries of the first group.^{3/}

1/ It has been reported that in the automobile industry, where export obligations were imposed, a value added share of 60 percent in domestic prices corresponds to a value added share of 36 percent in world market prices.

2/ In a few instances, the figures include exports from duty free zones but in no country do these exports exceed 10 percent of the total.

3/ In Korea, direct inputs purchased abroad amount to 45 percent of export value; indirect inputs and the use of exportable inputs may account for further 15 percent.

In turn, in Mexico where the incentive system continued to discriminate against primary activities, traditional and nontraditional exports of primary commodities increased relatively slowly. In the case of traditional exports, this generally represented a loss in market shares while non-traditional exports failed to develop as rapidly as in the countries of the first group. The same conclusion applies to traditional exports and their derivatives in Argentina while certain non-traditional exports expanded in response to an export subsidy.

Among the other countries of the second group, the course of traditional exports in Brazil and Colombia was determined largely by world market trends in coffee. However, the selective policy of expansion concentrating on meat, sugar, and soybeans in Brazil and the extension of export incentives to all products other than coffee and petroleum in Colombia led to a rapid increase of non-traditional primary exports in the two countries.

The countries of the third group, Israel and Yugoslavia, started their export promotion efforts at an early date but they did not accord free trade status to manufactured exports. Correspondingly, in 1966, in terms of the share of exports in manufactured output, the two countries surpassed the second group of countries while falling behind the first. In turn, with some slackening in their export promotion efforts after the mid-sixties, the share of exports in manufactured output increased only from 12.8 percent to 14.1 percent in Israel and from 13.8 percent to 16.9 percent in Yugoslavia during the period 1966-73.

As a result, by 1973, Israel's manufactured exports (\$495 million) were exceeded by Argentina, Brazil, and Singapore, while Yugoslavia (\$2031 million) was overtaken by Korea and Taiwan. Nevertheless, the average and the incremental shares of exports in manufactured output continued to be higher in the two countries than in the countries of the second group. Also,

in the absence of substantial discrimination against primary exports, Israel was able to expand rapidly its exports of citrus fruit and diamonds and Yugoslavia its exports of meat and lumber.

As noted above, policies of import substitution continued in India and in Chile. Thus, while India traditionally exported textile products, it lost ground in textile exports and was slow in developing new manufactured exports. As a result, its share in the manufactured exports of the eleven countries under consideration declined from 65.4 percent in 1953 to 50.7 percent its share in 1960, 31.2 percent in 1966, and 10.2 percent in 1973. The share of exports in India's manufactured output fell from 9.7 percent in 1960 to 9.4 percent in 1966 and 8.6 percent in 1973.

Following earlier increases in the exports of woodpulp, paper, and fabricated copper products, manufactured exports remained at the 1966 level in 1973 in Chile where the situation further deteriorated under the Allende regime. Correspondingly, Chile's share in the combined exports of manufactured goods of the eleven countries declined to 0.5 percent in 1973 as compared to 3.0 percent in 1953.

Given the continued discrimination against primary activities, the expansion of non-traditional primary exports was also relatively slow in both India and Chile. In turn, changes in world tea and copper exports determined to a considerable extent the results shown for their traditional primary exports.

Exports and the Growth of the Manufacturing Sector

The expansion of exports affects the growth of the manufacturing sector both directly and indirectly via input-output relationships and increased consumer demand. At the same time, the exports of manufactured goods provide advantages over import substitution by permitting resource allocation according to comparative advantage, increased capacity utilization, the exploitation of economies of scale, and improvements in technology stimulated by competition in foreign markets.

We cannot, however, expect to find a close correlation between exports and output growth since other factors, such as investment activity and the political climate, also influence the results. At the same time, the lack of data did not permit including additional variables in the statistical analysis and some of the relevant variables are not even quantifiable.

Nevertheless, the data for the eleven countries under consideration tend to bear out our expectations as regards the existence of a positive correlation between exports and output growth in the manufacturing sector. Thus, in the 1960-66 period, Korea, Singapore, Taiwan, Israel, and Yugoslavia had the highest incremental export-output ratios as well as the highest growth rates in manufacturing^{1/} while Argentina and Brazil placed at the bottom in regard to both variables. In the eleven country group, the Spearman rank correlation coefficient between incremental export-output ratios and the rate of growth of value added in manufacturing was .87 (For data, see Tables 2 and 3).^{2/}

In examining the data for the 1960-66 period, emphasis has been given to incremental ratios since, as noted above, growth rates of manufactured exports were affected to a considerable extent by absolute values in the initial year. This may explain the low correlation between the growth of exports and value added in manufacturing (.40) during this period.

Growth rates of manufactured exports are more meaningful indicators of export performance in the 1966-73 period, when the volume of exports in the initial year was already substantial. The Spearman rank correlation coefficient between the growth of exports and that of value added in manu-

^{1/} Notwithstanding its relatively low incremental export-output ratio, however, Mexico has a higher manufacturing growth rate than Israel.

^{2/} For eleven observations, levels of significance are .1 percent for a Spearman rank correlation of .82 or higher; .5 percent for coefficient values of .73 or higher, and 1 percent for coefficient values of .41 or higher.

TABLE 3

ECONOMIC GROWTH OF SELECTED DEVELOPING COUNTRIES
(Average Annual Growth Rates)

	Argentina	Brazil	Chile	Colombia	India	Israel	Korea	Mexico	Singapore	Taiwan	Yugoslavia
<u>Value Added in</u>											
<u>Agriculture</u>											
1953-60	0.5	4.0	-0.3	3.3	2.5	10.0	2.3	5.7	n.a.	3.9	3.5
1960-66	3.2	3.8	2.7	2.7	-0.5	2.6	5.8	4.7	2.5	5.3	3.2
1966-73	0.7	5.9	-0.7	4.7	3.0	5.6	3.2	2.4	3.1	3.8	2.0
<u>Manufacturing</u>											
1953-60	5.8	10.1	2.8	6.6	4.8	10.3	13.6	8.5	n.a.	10.1	13.2
1960-66	5.3	4.5	7.2	5.7	6.2	8.0	13.0	9.7	10.3	12.3	9.9
1966-73	7.3	11.8	3.7	7.6	4.7	10.9	21.0	7.6	15.0	22.0	8.4
<u>Gross National Product</u>											
1953-60	3.2	6.3	2.8	4.3	3.5	10.0	5.6	6.5	n.a.	6.9	5.6
1960-66	3.6	4.1	5.1	4.7	2.8	8.4	7.3	7.1	7.3	9.4	5.8
1966-73	4.8	9.3	2.4	6.1	3.8	9.8	10.7	6.4	12.7	10.7	7.1
<u>Per Capita GNP</u>											
1953-60	1.2	3.4	0.4	1.3	1.6	4.8	3.0	2.8	n.a.	3.2	4.4
1960-66	2.1	1.1	2.6	1.5	0.5	4.5	4.5	3.7	4.5	6.2	4.8
1966-73	3.3	6.4	0.2	2.9	1.5	7.0	8.8	2.9	10.9	7.9	6.0
<u>Population</u>											
1953-60	2.0	2.9	2.4	3.0	1.9	5.3	2.7	2.9	4.8	3.6	1.2
1960-66	1.5	2.9	2.6	3.3	2.3	3.9	2.7	3.4	2.8	3.2	1.0
1966-73	1.5	2.9	2.2	3.2	2.3	2.8	1.9	3.4	1.8	2.8	1.0

Sources: United Nations - Yearbook of National Accounts Statistics, various issues
 OECD - National Accounts of Less-Developed Countries, 1950-66
 World Bank - World Tables, 1976

facturing was .85 in this period; the coefficient was .68 between incremental export-output ratios and growth of the manufacturing sector. These results are hardly affected if we exclude the direct effects of exports by deducting export values from the value of manufactured output. The corresponding Spearman rank correlation coefficients are .80 for export growth and .71 for incremental export-output ratios.

The data for the individual countries also show the effects of policy changes after 1966. With increased export orientation, the rate of growth of value added in manufacturing rose further in Korea, Singapore, and Taiwan. In turn, with the slackening of export promotion efforts, Yugoslavia dropped out from the lead group. Yugoslavia, as well as the countries continuing with import substitution, India and Chile, also experienced a decline in the rate of growth of the manufacturing sector. Finally, the acceleration in the growth of this sector was particularly marked in Brazil where the shift to export promotion was the most pronounced.

Export orientation in manufacturing also has favorable effects by saving capital that is often the principal constraint to economic growth in the developing countries. To begin with, an export-oriented strategy permits exploiting the comparative advantage of developing countries, which tends to lie in labor-intensive industries within the manufacturing sector. Also, increased capacity utilization through exports will lead to higher output without necessitating increases in the capital stock. Finally, exploiting economies of scale reduces capital costs per unit of output.

Savings in capital resulting from the expansion of exports are indicated in Westphal's study on Korea. According to the estimates cited in this study, the average capacity utilization rate in the manufacturing sector, defined in terms of electricity usage and by taking three-shift

operations as the norm, rose from 17.7 percent in 1962 to 31.8 percent in 1971. Westphal also finds that in the manufacturing sector labor-capital ratios are much higher for exports than for import substitution, with ratios for the direct use of labor and capital in the manufacturing process estimated at 3.55 for exports, 2.33 for imports, and 2.64 for domestic manufacturing output in 1968.^{1/} Similar conclusions have been reached with regard to Taiwan by Riedel, who compared the factor intensity of exports and that of intermediate products that were purchased abroad in exchange for exports.^{2/}

Colombian exports of manufactures also tend to be labor-intensive^{3/} while labor requirements were about 40 percent higher for manufactured exports than for imports in Brazil.^{4/} Although comparable data for capital are not available for these countries, in case of equal profitability we would expect capital coefficients to be higher for imports than for exports.

Employment will benefit from the rapid growth of exports, their relative labor-intensity, and increases in manufactured output due to the indirect effects of exports as well as the use of the capital saved through the expansion of labor intensive industries, increased capacity utilization, and the exploitation of economies of scale. In turn, employment will be adversely affected to the extent that export orientation leads to more rapid increases in productivity than would otherwise be the case.

These influences have been analysed in regard to

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- 1/ Larry E. Westphal, "Korea's Experience with Export-led Industrial Development". Paper prepared for the ECLA/IBRD Seminar on Export Promotion Policies, November 1976. -- While the differences in these ratios declined after 1968, labor-capital ratios for imports are understated since the data used refer only to import substitutes actually produced in Korea and do not include presumably highly-capital intensive machinery and intermediate products imported from developed countries, which are not produced in Korea.
 - 2/ James Riedel, "Factor Proportions and Linkages in the Open Developing Economy" Review of Economics and Statistics, November 1975, p. 492.
 - 3/ French-Davis and Pinera, "Colombia Export Promotion Policy", p. 94.
 - 4/ Tyler, Manufactured Export Expansion and Industrialization in Brazil, Ch. 6.

Taiwan and India by Banerji and Riedel. ^{1/} The authors find that, in the period 1961-71, employment in Taiwanese manufacturing increased at an average annual rate of 10 percent, of which the output growth effect was responsible for approximately 18 percent, structural change through the greater labor intensity of production 4 percent, productivity change -4 percent, and the cross effects of these changes -8 percent. The corresponding estimates for India in the period 1960-69, when manufacturing employment increased at an average annual rate of 3 percent, are 11 percent for the output growth effect, -1 percent for structural change, -3 percent for productivity change, and -4 percent for their cross effects. ^{2/}

The results indicate that in the case of Taiwan the favorable effects of output growth on employment were enhanced by structural change through the shift of production in a labor-intensive direction associated with export expansion. By contrast, the shift towards capital-intensive production aggravated the effects of slow output growth in India.

The slow absorption of the labor force in the manufacturing sector has contributed to the increase in unemployment in India from 2.5 million in 1966 to 7.6 million in 1973, i.e., from 14.0 percent to 28.8 percent of the labor force. During the same period, unemployment in Taiwan fell from 3.1 to 1.5 percent of the labor force. ^{3/} Unemployment declined also in Korea where manufacturing employment grew at an average annual rate of 12 percent between 1960 and 1973. ^{4/}

^{1/} Ranadev Banerji and James Riedel, "Industrial Employment Expansion under Alternative Development Strategies: Some Empirical Evidence", 1976 (mimeo).

^{2/} In the case of Taiwan, the estimates of Banerji and Riedel for 1961-66 and 1966-71 have been combined in an approximative fashion.

^{3/} Ibid

^{4/} World Bank, Korea: Basic Economic Report, Annex B, 1977 (mimeo)

Pari passu with the decline in unemployment, real wages increased to a considerable extent in the countries that pursued an export-oriented strategy. Real wages in manufacturing rose 10 percent a year between 1966 and 1973 in Korea and 6 percent a year between 1966 and 1972 in Taiwan. Increases in real wages were relatively rapid following increased orientation towards exports also in Brazil, averaging 5 percent a year in the manufacturing sector between 1966 and 1972. By contrast, real wages in manufacturing remained unchanged between 1961 and 1968 in India and declined at a rate of 1 percent a year between 1966 and 1973 in Chile.^{1/}

Export Expansion and Economic Performance

The influences described in regard to the manufacturing sector operate on the national economy level as well. To begin with, the direct effects of exports on output are observed in primary activities also. This is apparent from the high degree of correlation between the growth of agricultural exports and that of value added in agriculture: for the eleven country group, the Spearman rank correlation coefficient between the two variables was .57 in 1960-66 and .71 in 1966-73.

Note further that indirect effects operate in intersectoral relationships, too. For one thing, manufacturing industries use raw materials as inputs while primary producers purchase manufactured inputs and machinery; for another, higher incomes due to the expansion of exports, whether primary or manufactured, increase demand for the output of all sectors.

1/ Banerji and Riedel, op. cit.; International Labour Office, Yearbook of Labour Statistics and International Monetary Fund, International Financial Statistics, various issues. Data for most of the other countries studied are not available.

Also, in addition to increased capacity utilization, the exploitation of economies of scale, and the relative labor intensity of exports in the manufacturing sector, export orientation may lead to savings in capital by reducing the bias against primary exports. Savings in capital, in turn, permit increasing output through greater employment in countries with unemployment or under-employment of labor. Finally, increased foreign exchange earnings can contribute to the growth of the national economy by easing the foreign exchange bottleneck that has often been an obstacle to economic growth in the developing countries in limiting the importation of intermediate products and capital goods.

Even allowing for the import requirements of exports, the impact of the increased availability of foreign exchange through higher exports is apparent in the continued rise of the share of imports in the gross national product in Korea, Singapore, Taiwan and Israel,^{1/} and in the reversal of the decline in this share in Argentina, Brazil, Mexico, and Yugoslavia. By contrast, import shares declined to a considerable extent between 1966 and 1973 in both Chile and India. For the sample group as a whole, the Spearman rank correlation coefficient between incremental import-GNP rates and the growth of GNP was .91 in 1966-73.

The described influences are expected to lead to a positive relationship between export growth and the growth of GNP. The results for the countries under study tend to conform to these expectations. During the 1966-73 period, growth performance among the eleven developing

^{1/} In Korea the share of exports in GNP increased from 18.7 percent in 1966 to 34.3 percent in 1973 (Table 2). Adjusting for the import needs of exports, the relevant shares will be 16.0 percent in 1966 and 24.6 percent in 1973.

countries was closely linked with export growth, except that the inflow of foreign private capital enabled Mexico to reach a higher rate of growth of GNP than expected on the basis of export figures. The relationship had been somewhat weaker during the 1960-66 period, when several of the countries concerned had started out with a low absolute export figure. For the entire sample of countries, the Spearman rank correlation coefficient between the growth of exports and of GNP was .82 for the 1960-66 period and .93 for the 1966-73 period.

The method of relating export growth to the growth of GNP was criticized by Michaely, according to whom "since exports are themselves part of the national product, an auto-correlation is present; and a positive correlation of the two variables is almost inevitable whatever their true relationship to each other".^{1/} The relevance of this objection to a cross-section investigation is questionable, however. This is because inter-country differences in export growth can be taken to represent different degrees of export as against import-substitution orientation, so that a positive correlation between exports and GNP gives evidence of the success of an export promotion strategy.

At any rate, the estimated results are hardly affected if the rate of growth of exports is replaced by the incremental export-GNP ratio. For the eleven-country group, the Spearman rank correlation coefficient between incremental export-GNP ratios and the rate of growth of GNP was .71 in 1960-66 and .86 in 1966-73.

^{1/} Michael Michaely, "Exports and Growth: An Empirical Investigation", Washington, D. C., World Bank, 1976, mimeo.

In turn, in a 41 country sample, a rank correlation coefficient of .38 was obtained by Michaely between changes in the export-GNP ratio and the growth rate of GNP per head for the period 1950-73. The differences between the two sets of estimates are partly explained by the fact that our sample includes only developing countries that have established an industrial base while Michaely combined data for countries at different levels of development. He obtained a rank correlation coefficient of .52 for a subsample of 18 countries having per capita incomes exceeding \$300 in 1972. But, this group, too, is somewhat heterogeneous as it includes Greece and Spain. Moreover, it is preferable to use incremental export - GNP ratios rather than changes in export - GNP ratios in the calculations since the former, but not the latter, will indicate differences in the relative importance of exports in GNP across countries.

Attempting to explain GNP growth in terms of export growth has the disadvantage of omitting other relevant variables. Michalopoulos and Jay attempted to remedy this deficiency by including domestic and foreign capital as well as labor in the regression equation. Using data for 39 developing countries in the period 1960-68, they found that these variables explained 53 percent of the intercountry variation of GNP growth rates. Adding an export variable raised the coefficient of determination to .71, thus indicating the contribution of exports to economic growth.^{1/} The stat-

^{1/} Constantine Michalopoulos and Keith Jay, "Growth of Exports and Income in the Developing World: A Neoclassical View", AID Discussion Paper No. 28, Washington, D.C., November 1973. -- Exports, labor and the gross national product have been expressed as a ratio of the absolute change between the initial and the terminal year divided by initial year values; for exports, current price dollar values, for GNP, constant price domestic values have been used. Foreign investment has been defined as the average current account balance for the period in question, expressed as a proportion of initial year GNP while domestic investment has been obtained as the average difference between gross fixed capital formation and foreign investment expressed as a proportion of initial year GNP.

istical results are reproduced in equations (1) and (2) in Table 4.^{1/}

We have applied the method utilized by Michalopoulos and Jay to the pooled data of ten out of the eleven countries under study for the periods 1960-66 and 1966-73.^{2/} The results shown in equations (3) and (4) indicate that the inclusion of the export variable in the regression equation raises the coefficient of determination from .58 to .77.

All the regression coefficients are significant at the 5 percent level.^{3/} The coefficient of the export variable has the same value as in the Michalopoulos-Jay equation; in turn, the coefficients of the foreign capital and the labor variables are higher and the coefficient of domestic capital is lower than in the earlier study. The latter result may be explained by the fact that domestic investment was rising rapidly in the countries concerned during the period under consideration and its effects were not yet fully absorbed in the national economy.

As shown in equations (5) and (6), the results are hardly affected if the current dollar value of exports is replaced by the purchasing power of exports or by the incremental export-GNP ratio.^{4/} The results indicate that a 1 percent increment in exports is associated with a .05 of 1 percent increment in GNP.

^{1/} Using a different methodology, Chenery and Carter reached the conclusion that, during the sixties, exports and domestic savings each accounted for one-half of the growth of output in Taiwan while in Korea the contributions of the individual factors were: exports, 40 percent, capital inflow, 20 percent, savings, 20 percent, and increased use of capacity, 20 percent, when the latter was also influenced by export growth (H.B. Chenery and N.G. Carter, "Foreign Assistance and Development Performance, 1960-1970"; American Economic Review, May 1973, p. 464).

^{2/} For lack of some of the relevant data, Singapore had to be excluded from the empirical investigation. Note further that a dummy variable representing the second period has been tried but was not statistically significant.

^{3/} Regression equations estimated by the inclusion of a constant are not shown because of the lack of statistical significance of the constant.

^{4/} In making use of equation (6), calculations have been made for average incremental export-GNP ratios for the sample countries.

Table 4

Regression Equations on the Relationship of Growth of GNP
to
Growth of Domestic and Foreign Capital, Labor, and Exports

Equation No.	Dependent Variable	Coefficients of independent variables						R ²
		K _D	K _F	L	X	PPX	IXR	
1	Y	.25 (7.81)	.20 (3.35)	.66 (2.44)				.53
2	Y	.24 (9.62)	.12 (2.33)	.60 (2.81)	.04 (4.82)			.71
3	Y	.18 (3.23)	.30 (2.42)	1.09 (1.74)				.58
4	Y	.15 (3.33)	.23 (2.40)	.97 (1.99)	.04 (3.57)			.77
5	Y	.16 (3.59)	.24 (2.44)	.92 (1.82)		.05 (3.34)		.75
6	Y	.14 (2.32)	.26 (2.32)	.98 (1.66)			.006 (1.86)	.65

Note: Equations (1) and (2) have been taken from Michalopoulos and Jay (*op. cit.*); equations (3) to (6) have been estimated for the pooled data of ten countries for 1960-66 and 1966-73. The gross national product (Y), and labor (L) have been expressed as the ratio of the absolute change between the initial and the terminal year divided by initial year values. The same procedure has been followed for exports, which have alternatively been expressed in terms of current dollar values (X) and in terms of their purchasing power (PPX), derived by deflating dollar values by the index of unit values of manufactured exports of the developed countries. IXR is the incremental ratio of exports to GNP, K_F is the average current account balance during the period in question, expressed as a proportion of initial year GNP, and K_D the average difference between gross fixed capital formation and current account balance, expressed as a proportion of initial year GNP.

This estimate may be compared to that obtained in the cross-section investigation cited above by Anne Krueger who concluded that an increase in the rate of growth of exports of 1 percent tends to increase the rate of growth of GNP by .06 of 1 percent. However, Krueger has also found that on the average, countries with liberalized regimes had a GNP growth rate .7 percent higher than others even after differences in export performance are taken into account. In turn, she has adjusted the estimates for a time trend but not for changes in capital and labor.^{1/}

Given the large intercountry differences shown in export growth and in the incremental ratio of exports to GNP, the effects of exports on the rate of economic growth appear substantial. This conclusion is supported by comparisons of predicted values derived from equation (6) by the use of actual incremental export - GNP ratios and of average ratios for the sample countries. Thus, it would appear that between 1966 and 1973 the increase in Taiwan's GNP would have been 31 percent smaller if its incremental export - GNP ratio equalled the average for the countries concerned. The corresponding proportion is 16 percent for Korea that had a lower incremental export - GNP ratio than Taiwan. At the other extreme, in Chile, India, and Mexico, respectively, the increase in GNP would have been 12, 11, and 10 percent higher if these countries had average ratios of the increment of exports to that of GNP. Results for all other countries in the group fall in the -5 to +5 percent range. (Table 5)

These differences are accentuated if the results are expressed in per capita terms. Thus, according to the calculations, the increase in per capita incomes in Taiwan would have been 40 percent smaller, and in Korea

^{1/} Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences, Ch. XI. -- Regressing the GNP variable on the export variable only, we obtained elasticity values of .06 to .07.

TABLE 5

Hypothetical Gain or Loss in the Growth Rates
of GNP and per Capita GNP
Assuming Average Export Growth Rates^{1/}
and Incremental Export - GNP Ratios^{1/}

	<u>EXPORT GROWTH</u>		<u>INCREMENTAL EXPORT-GNP RATIO</u>	
	GNP	Per Cap. GNP	GNP	Per Cap. GNP
Argentina	+ 8.4	+ 11.9	+ 5.0	+ 7.0
Brazil	- 5.3	- 8.8	+ 0.8	+ 1.3
Chile	+ 13.7	+ 21.4	+ 11.9	+ 18.3
Colombia	+ 3.8	+ 7.0	- 2.2	- 3.7
India	+ 12.4	+ 21.8	+ 11.2	+ 20.2
Israel	- 0.8	- 1.2	- 3.4	- 4.8
Korea	- 37.4	- 42.5	- 15.5	- 18.3
Mexico	+ 8.4	+ 17.1	+ 9.9	+ 20.6
Taiwan	- 25.1	- 32.6	- 31.3	- 40.2
Yugoslavia	+ 2.8	+ 3.3	- 3.0	- 3.5

^{1/} Hypothetical growth rates have been calculated from equations (4) and (6), under the assumption that the country in question had the average growth rate of exports or average incremental export - GNP ratio for the sample group as a whole. The difference between these hypothetical growth rates and the predicted growth rates from the same equations for the country concerned has been designated as the gain (+) or loss (-) in the growth rate of GNP and per capita GNP assuming average export growth and incremental export - GNP ratios.

18 percent smaller, if incremental export-output ratios in these countries had been identical to the average ratio for the sample as a whole. Conversely, increases in per capita incomes in Chile, India, and Mexico would have been 18, 20, and 21 percent higher in this eventuality.

It may be objected that differences in incremental export-GNP ratios are affected by differences in the size of the individual countries. Although the numerical results do not appear to be correlated with country size ^{1/} calculations have further been made by using export growth rates that cannot be said to be influenced by differences in the size of the country.

The results by-and-large correspond to the estimates derived by the use of incremental export-GNP ratios. At the same time, it should be noted that export growth rates are more sensitive to the choice of base year than incremental export-GNP ratios. This is the case, in particular, in Brazil where exports in 1966 were at a low level due to the adverse effects of import substitution policies.

It would appear, then, that trade orientation has been an important factor contributing to the intercountry differences in the growth of per capita incomes shown in Table 3. At the same time, income increments have been achieved at a substantially lower cost in terms of investment in countries that have followed a consistent policy of export orientation. Thus, taking the 1960-73 period as a whole, incremental capital-output ratios were 1.76 in Singapore, 2.10 in Korea, and 2.44 in Taiwan. At the other extreme, these

^{1/} Thus, the bottom group of countries includes Chile that has the smallest population after Israel. In turn, the group that experienced the least deviations between the two sets of calculated values includes countries with greatly different population size, such as Argentina, Brazil, Columbia, Israel and Yugoslavia. Finally, among countries in the first group, Korea had the third largest population in our country sample.

ratios were 5.49 in Chile and 5.72 in India.

In the same period, incremental capital-output ratios were between 3 and 5 in the countries of the second and the third group, with improvements shown over time in line with their increased export orientation. While figures for subperiods are subject to considerable error, it appears that the greatest improvement was experienced in Brazil following its pronounced policy change. Brazil's incremental capital-output ratio declined from 3.84 in 1960-66 to 2.06 in 1966-73, when the low figure for the second period presumably also reflects increased capacity utilization at higher export levels.

The statistical results indicate that export growth favorably affects the rate of economic growth over and above the contributions of domestic and foreign capital and labor. These favorable effects may be attributed to improved resource allocation, increased capacity utilization, the exploitation of economies of scale, technological change, and the increased availability of foreign exchange.

At the same time, the method applied **underestimates the effects** of exports on economic growth, since it does not take account of the implications of export growth for the other variables included in the equation. Yet, as noted earlier, through its effects on capacity utilization and on capital-labor ratios, export orientation tends to increase employment. Also, the improved balance-of-payments situation attendant on the expansion of exports increases the attractiveness of the country concerned for foreign capital.

In turn, it has been suggested that the first group of countries might have derived advantages from foreign direct investment as foreign-owned firms are more export-oriented than domestically-owned enterprises.

The second part of the proposition has been confirmed as far as Latin America is concerned.^{1/} However, the entire proposition lacks factual basis as, having followed the example of Japan, the countries of the first group, and in particular Korea, have a lower share of foreign-owned firms than those of the second group.

Thus far, the discussion has been based on evidence provided by cross-section analysis. Data on changes over time in export values and in the GNP of the individual countries tends to confirm these conclusions. Thus, we find that, with one exception, countries where the rate of growth of exports increased between the 1960-66 and 1966-73 periods also experienced an acceleration in their economic growth. In turn, the decline in the rate of growth of exports in Chile was accompanied by a slowdown in the growth of the Chilean economy.

These conclusions are slightly modified if changes in the purchasing power of exports rather than in export values are considered. But, from the point-of-view of improved resource allocation, the increased use of capacity, the exploitation of large-scale economies, and technological change, little importance can be attached to change in import prices that were used to calculate changes in the purchasing power of exports. Furthermore, on the basis of the evidence provided by Anne Krueger, it may be suggested that the policy change itself may have had effects on GNP that are not captured by the export variable.

1/ Fernando Fajnzibler and Trinidad Martinez Tarrago, Los Empresas Transnacionales, Mexico, Fondo de Cultura Economica, 1976.

The Effectiveness of Export Incentives

We have examined available evidence regarding the effects of export incentives on export expansion and the effects of export expansion on the growth of the national economy. The results indicate that export orientation in the system of incentives had beneficial effects on economic growth in the countries concerned. For one thing, in an intercountry context, greater export orientation tends to be associated with higher export growth rates and better growth performance. For another, in the individual countries, the growth of exports and GNP generally accelerated following the introduction of export incentive schemes.

Also, we have provided evidence that export orientation has had beneficial effects on employment. These effects may, in part, explain that income distribution is much less unequal in countries such as Korea and Taiwan, which adopted an export oriented strategy at an early date, than in countries where import substitution policies continued beyond the first stage.^{1/}

Export incentives include all measures that increase the profitability of exports by reducing costs or increasing revenue. In Section I, note has been taken of measures that directly affect individual exporters, such as export exchange rates, subsidies to export value, tax and duty concessions, foreign exchange retention schemes, and preferential credits. Automaticity in providing subsidies and governmental attitudes towards export promotion are further influences affecting exports. Finally, exporters may obtain benefits from direct government action in the form of government - sponsored market research and information services.

^{1/} These conclusions are unaffected by the choice of the indicators of income inequalities. For a compilation of the relevant estimates, see Shail Jain, Size Distribution of Incomes, The World Bank, Washington, D. C., 1975.

More generally, importance attaches to the general policy "climate" in which the incentive scheme is applied and the removal of distortions in factor markets. The liberalization of economic policies has provided a boost to exports whereas continued constraints on investments and import allocation have mitigated the effects of export incentives as in India.

While export incentives provide inducement for increasing exports in a market economy, the question has been raised what role government interventions in the form of planning or programming may have played in inducing firms to export. A few of the successful exporting countries did prepare medium-term plans. However, the influence of these plans on resource allocation and on the composition of exports appears to have been minimal. At any rate, the plans were prepared on an aggregate level so that there was no direct link to the exports of specific commodities.

And, although Korea used export targets in a disaggregated framework, the application of a free trade regime to all exports was in no way related to the fulfilment or the non-fulfilment of these targets. Furthermore, preferential export credits were provided according to predetermined rules while wastage allowances were set on a product-by-product rather than on a firm-by-firm basis. Thus, by-and-large, the fulfilment of export targets did not modify the firm's access to incentives, although it has been reported that successful exporters enjoyed advantageous treatment in e.g. pending tax cases. Note further that while the existence of export targets may have exerted

pressure on some firms, most firms were exceeding their targets. A recent instance is the increase of Korean exports by two-thirds between the second quarter of 1975 and the second quarter of 1976 that exceeded expectations by a substantial margin.

In turn, there were no export targets in Hong Kong, Singapore and Taiwan that had an export performance comparable to that of Korea. And while in a few cases export obligations were imposed on firms in Latin America (e.g. automobiles in Mexico), programming or export targets hardly played a role in the expansion of exports in the countries of the second group. Thus, success in exporting and the acceleration of the rate of economic growth can in large part be ascribed to the incentives applied.

We come finally to the question of whether an import substitution phase is necessary for the subsequent expansion of exports and, if so, for how long and at what cost. The experience of Hong Kong indicates that exports may expand rapidly without a previous import substitution phase. Rather, with the increased sophistication of its industrial structure brought about by the expansion of exports, "natural" import substitution has taken place in Hong Kong in several industries under free trade conditions.^{1/}

Also, the import substitution phase in non-durable consumer goods and their inputs was of short duration in the first group of countries. It lasted barely six years in Singapore while it covered largely the period of postwar reconstruction in Korea and Taiwan. Also, in all three countries,

^{1/} Bruce Glassburner and James Riedel, "Economic Development Lessons from Hong Kong: A Reply", Economic Record, December 1973, p. 638.

the bulk of their present exports, including plywood, wigs, synthetic textiles, electronics, and ships did not go through an import substitution phase. Finally, the expansion of exports *cum* import substitution is envisaged in machinery where reliance on import substitution alone would not permit exploiting economies of scale and would raise costs for user industries.

In turn, Argentina, Brazil, Colombia, and Mexico continued with import substitution beyond the first "easy" stage and adopted export promotion measures only when this policy ran into increased difficulties. It has been suggested that, without the preceding import substitution phase, export expansion in Latin America would not have occurred at the rates observed. At the same time, as we have seen, the expansion of exports took place from a small base, and the absolute value of manufactured exports and share of exports in manufactured output remained relatively low in the countries concerned. This, in turn, may be explained by the establishment of high cost firms and by the lack of sufficient vertical specialization in the production of parts, components, and accessories behind high protection.

In particular, the lack of efficient industries producing inputs for export production was an obstacle to export expansion under the application of the rule that did not permit the importation of substitutes. Also, it would appear that the expectation of continued protection provided little inducement to technological improvements and cost reductions that are necessary for success in foreign markets.

This is not to say that the manufacturing industries of developing countries would not need preferential treatment vis-a-vis primary activities. But such treatment should be provided irrespective of whether sales take place in domestic or in export markets, so as to avoid a bias

against exports that could lead to the establishment of small scale, inefficient firms producing for the home market only. This is of particular importance in regard to industries producing intermediate products, durable consumer goods, machinery, and equipment where substantial economies of scale can be obtained.

If exports and import substitution receive equal incentives and the extent of incentives does not exceed that dictated by social profitability considerations, efficient industrialization will be promoted that may involve export expansion and import substitution as well. This, in turn, brings us to the consideration of optimal policies in the developing countries.

III. "Ideal" Trade Policies for Developing Countries

Incentives to Exports and to Import Substitution

An "ideal" scheme of export incentives should aim at assuring that the expansion of exports, and resource allocation in general, conforms to the requirements of social profitability. Also, it should aim at minimizing the chances of retaliation on the part of the importing countries. Finally, the export promotion scheme should have an across-the-board character and it should provide certainty and stability to exporters. These questions will be taken up in turn.

Social profitability considerations call for providing equal incentives to exports and to import substitution. For one thing, from the point-of-view of the national economy, a dollar earned in exporting is equivalent to a dollar saved through import substitution. For another, as noted above, equal incentives to production for domestic and export markets are necessary for exploiting economies of scale and for contributing to technical progress.

Similar considerations underlie the recommendations made by Ffrench-Davis and Pinera for equalizing-compensation; i.e. for offsetting the discrimination against exports inherent in the protection of domestic markets by equivalent export subsidies.^{1/} But, Ffrench-Davis and Pinera suggest that "considering the fiscal restrictions with which the governments of develop-

^{1/} Ricardo Ffrench-Davis and Jose Pinera Echenique, "Export Promotion Policies in Developing Countries", paper prepared for the ECLA/IBRD Seminar on Export Promotion, Santiago, November 1976.

ing countries are usually faced, it would seem advisable for the average level of export subsidies to be somewhat lower than that of tariffs".^{1/}

Fiscal limitations will not make, however, such exceptions necessary in most countries that have established an industrial base.^{2/} Thus, as we have seen, the eleven countries under study were able to provide substantial export subsidies. And, even if the levying and the collection of income taxes encounter difficulties, indirect taxes may be used to finance such subsidies. Nonetheless, in any particular case, the fiscal implications of the proposed scheme would need to be carefully examined, and a differentiation between tariffs and export subsidies may be warranted in the case of some countries at lower levels of industrial development where fiscal constraints are particularly tight.

It has also been suggested that tariffs should be set higher than export subsidies because of the danger of foreign dumping. However, in view of the paucity of cases of dumping, this argument cannot be used to countenance levying higher tariffs on imports in general. Considering further the need to avoid disincentives to exports, it would be desirable if, instead of tariffs, one relied on anti-dumping measures whenever the existence of dumping has been established.

^{1/} Ibid., p. 23.

^{2/} Nevertheless, budgetary considerations generally preclude the use of production subsidies in the place of tariffs and export subsidies in the developing countries. For a further discussion of this issue and its welfare implications, see Bela Balassa, "Reforming the System of Incentives in Developing Countries, World Development, pp. 373-74, June 1975 (Reprinted in Policy Reform in Developing Countries, Ch. 1), The paper also provides a further discussion of several of the issues considered in Section III as well as references to the principal contributions in the relevant literature.

Nor is the higher protection of luxury goods warranted on income distributional grounds. While luxury taxes are an appropriate device in most developing countries where income and profit taxation encounters difficulties such taxes should also be levied on domestically produced luxury goods since otherwise their home production would be encouraged as it has happened in a number of developing countries. Accordingly, an excise tax on luxury goods will be an appropriate measure; in the case of imports, this may be levied at a point of entry.

The application of tariffs at higher rates may be warranted, however, in cases when consumers have an irrational preference for foreign goods that involves a cost to the national economy as consumer goods are imported at a higher cost than they can be produced domestically. Such exceptions should be made sparingly, however, so as to avoid excessive protection of consumer goods industries leading to high cost, inefficient production.

It has also been suggested that higher tariffs should be applied to protect infant industries. But infant industry protection should apply to exports as well; i.e., providing additional incentives to new industries should not be limited to production for domestic markets, since the effects on the country's industrial development and balance-of-payments will be identical in the two cases.

In fact, it may be desirable to grant additional incentives to new export activities. For one thing, there are additional costs of entering foreign markets, including the cost of the collection of information and marketing; for another, the risk to individual exporters tends to be greater than to the national economy that has a diversified export structure. Nevertheless, just like infant industry protection, additional incentives aimed at new exports should be given on a temporary basis until new markets have been established.

Differential Treatment of Particular Sectors

Setting tariffs and export subsidies at equal rates on all products would be equivalent to free trade. As noted earlier, this would not be the appropriate policy in developing countries. For one thing, in the case of exports facing less than infinitely elastic foreign demand, the optimum tariff argument applies. This entails equating the marginal revenue derived from the exportation of the commodity in question to marginal costs.^{1/}

For another, the existence of externalities in the manufacturing sector warrant the preferential treatment of this sector in developing countries. This is because manufacturing activities provide social benefits in the form of the "production" of skilled labor and technological change that are not fully captured in the entrepreneur's profit calculation. There is a difference in this regard between manufacturing and agricultural activities as the latter generally use less skilled labor, and technological change is promoted chiefly by agricultural stations rather than by individual producers. At the same time, preferential treatment should be commensurate with the external economies manufacturing activities generate, which do not justify the high protection often observed in developing countries.^{2/}

We have considered so far the need for preferential treatment for the manufacturing sector, taken as a whole. French-Davis and Pinera suggest that "it is necessary to discriminate deliberately between different items, since in practice the divergences between the social and private returns related with the nature of the production processes are not uniform in all

^{1/} For the relevant formulas, cf. Harry G. Johnson, "Alternative Maximization Policies for Developing Country Exports of Primary Industry", Journal of Political Economy, May-June 1968.

^{2/} "Reforming the System of Incentives in Developing Countries", p. 375.

activities".^{1/} It is hardly possible, however, to establish the extent to which social benefits vary among individual industries. For example, while at one time textile production was considered a vegetative industry in Latin America, it has had one of the best records of productivity improvement in recent years.

Given our ignorance as regards interindustry differences in social benefits, it is suggested here, that infant industries apart, as a first approximation one should provide equal incentives to all manufacturing activities. This amounts to the application of the "market principle" that will ensure that efficient activities will expand at the expense of inefficient ones. Exceptions from this rule should be made only in cases when it is well established that an industry generates substantially greater (lesser) external economies than the average. In so doing, one should avoid the use of "tailor-made" tariffs benefiting a particular firm in response to pressures by special interest groups. In general, the burden of proof should be on those requesting special treatment.^{2/}

At the same time, to the extent possible, exceptions should be made, and considerations other than economic efficiency introduced, in the form of direct measures rather than higher rates of protection.^{3/} Thus, in industries that show exceptional promise for technological improvements, the direct subsidization of research and development is preferable to ad-

^{1/} "Export Promotion Policies in Developing Countries" p. 73.

^{2/} "Reforming the System of Incentives in Developing Countries", pp. 374-75.

^{3/} This conclusion also applies if differences exist between the shadow and the market prices of productive factors.

ditional protection that may lead to the establishment of high-cost firms. Also, measures taken to reduce the cost of labor will be a more appropriate way to encourage employment than the protection of labor-intensive industries that promote the use of both labor and capital in these industries.^{1/}

Alternative Incentive Schemes

We have suggested that the optimal tariff argument applies to exports facing less than infinitely elastic demand while preferential treatment may be provided to manufacturing activities. Externalities in the manufacturing sector do not, however, warrant the high protection of this sector. And, certain exceptions apart, for any given product sales on domestic and foreign markets should receive equal incentives.

The proposed system of incentives may be implemented in various ways.^{2/} Under Alternative A, differential incentives are provided by applying the official exchange rate to exports facing less than infinitely elastic foreign demand (e.g. copper) and imposing import tariffs and export subsidies on other primary products^{3/} as well as on manufactured goods, with higher rates applying in the latter case.^{4/}

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- 1/ For a discussion of the technological and employment arguments for protection, see Bela Balassa, "Guidelines for the Common External Tariff of the Andean Common Market," Policy Reform in Developing Countries, ch. 5.
 - 2/ These alternatives are discussed in Bela Balassa and Michael Sharpston, "Export Subsidies by Developing Countries: Issues of Policy," Commercial Policy Issues No. 3 (forthcoming)--The paper also describes actions taken by developed nations as regards export subsidization by developing countries.
 - 3/ The example excludes the case when some manufactured exports may be face to less than infinitely elastic foreign demand. This possibility can be easily accommodated, however, in the proposed incentive scheme.
 - 4/ Trade in intermediate goods is not considered here; their introduction necessitates relating incentives to value added rather than output value. On practical difficulties and possible solutions, see Bela Balassa and D. M. Schydrowsky, "Indicators and Protection and Other Incentive Measures" in The Role of the Computer in Economic and Social Research in Latin America (Nancy D. Ruggles, ed.). New York, National Bureau of Economic Research, 1974.

Assume next that, in the case described, optimum tariff considerations and external economies in manufacturing warrant setting rates of import tariffs and export subsidies at 25 percent for primary products other than copper and at 40 percent for manufactured goods. Domestic prices and relative incentives as well as the allocation of resources and the effects on the government budget will be the same but the official exchange rate will be 25 percent higher if this rate is applied to primary products other than copper, a 20 percent export tax is levied on copper, and manufactured goods are subject to tariffs and export subsidies of 12 percent (Alternative B).

Again, the economic effects will be the same but the official exchange rate will be 40 percent higher than under Alternative A if this rate is applied to manufactured goods, a 28.6 percent export tax is levied on copper, and a 10.7 percent export tax *cum* import subsidy on other primary products (Alternative C).

The three alternatives have identical effects on trade, resource allocation and the government budget in the country concerned as well as on the trade of other countries. They differ, however, as to the chances of retaliation on the part of the importing countries, in particular the developed nations. This is because, while tariffs and taxes are generally considered to be within the purview of every country, foreign nations may employ retaliatory measures in cases when export subsidies have been granted. Indeed, in the United States, countervailing duties have been levied on several export products from developing countries and their application threatens all exporters who receive explicit subsidies.

The objective of avoiding retaliation then favors Alternative B over Alternative A, while Alternative C will be superior to the other two since it does not involve explicit subsidies to exports.^{1/} Internal political considerations may, however, hinder the application of the third alternative. Primary producers may object to the use of (explicit) export taxes and a large devaluation may meet with general disapproval. Should this be the case, the use of explicit export subsidies could not be foregone. Developing countries could then, minimize the chances of retaliation on the part of the developed nations by relying on measures that have not been traditionally considered export subsidies or have been used by the developed nations themselves.

To begin with, duty rebates on imported inputs used in export production are admissible under GATT.^{2/} Also, there are various institutional measures of export promotion that have been widely employed without inviting retaliation. They include services to exporters provided by governmental or quasi-governmental bodies in the form of the collection of information on export markets, the organization of trade fairs, export marketing institutions, quality control, labor training, etc.

Finally, the danger of retaliation is reduced if the developing countries utilize subsidy measures which have been employed by the developed nations, such as preferential export credits, credit insurance schemes,

^{1/} These alternatives may be interpreted as variants of multiple exchange rates or, in the event of their application in replacing the existing system of protection, of a compensated devaluation. The latter has been first suggested in Bela Balassa, "Integration and Resource Allocation in Latin America", paper prepared for the Conference "The Next Decade of Latin American Development", held in April 1966 at Cornell University and published in Spanish under the title "Integracion regional y asignacion de recursos en America Latina" in Comercio Exterior September 1966 and D. M. Schydrowsky, "From Import Substitution to export promotion for Semi-grown-up Industries: A Policy Proposal" Journal of Development Studies, July 1957.

^{2/} Rebates of indirect taxes are also admissible and should be applied under all circumstances but, as noted above, they are not genuine export subsidies.

and income tax deferrals. The application of such measures could not be recommended, however, on exports to the United States which has countervailed preferential export financing and schemes involving a delay of taxes payable on incomes derived from exports, although they are provided to U.S. exports.^{1/}

Additional Considerations on an "Ideal" Export Incentive Scheme

We have indicated the need for providing equal incentives to individual activities within the manufacturing sector. Uniformity should be understood in terms of effective rates of protection which express the margin of protection on value added rather than in terms of nominal rates of protection which relate to product price. The implications of these conclusions for export subsidization will next be indicated.

Value added in exporting equals net foreign exchange earnings that is the difference between the f.o.b. export price and the foreign exchange value of tradeable inputs. Providing equal subsidies on a value added basis will thus ensure the expansion of efficient export activities; i.e. those where exports can be obtained at least domestic cost. Conversely, selectivity in export incentives based on differences in the international competitiveness of individual industries as suggested in the ECLA study on Mexico^{2/} will tend to encourage high-cost, and discourage low-cost, exports.

^{1/} "Export Subsidies by Developing Countries: Issues of Policy" pp. 41-42.

^{2/} ECLA, "The Export of Manufactures in Mexico and its Promotion Policy," paper presented at the ECLA/IBRD Seminar on Export Promotion Policies, November 1976.

Nor is the proper objective of export policies to "maximize their selective efficiency, in terms of sufficiently precise variable goals..."^{1/} To the extent that these goals are considered desirable, they would be more effectively served by measures that directly bear on the particular objective rather than by export subsidies that could not be appropriately used to pursue multiple objectives. Moreover, selectivity would impose a heavy administrative burden on the government bureaucracy and invite corruption.

Similar objections pertain to related proposals made for the planning and programming of exports.^{2/} Apart from the fact that firms are better able to discover export opportunities than a government bureaucracy, the responsibility for exports cannot be divided as firms have to take the risks involved in exporting and reap the rewards.

These conclusions are substantiated by the experience of the eleven countries that was reviewed above. They are also supported by the experience of Hungary, the country with the largest share of exports in GNP among the socialist states, which chose to decentralize decision-making in the export sector, with firms responding to market signals. In fact, the Hungarian economic reform was to a large extent motivated by the difficulties

^{1/} Angel Monti, "Latin American Exports of Manufactures: Experiences and Problems," pp. 61-62. --The stated goals are said to include "value added, employment, distribution in general, net balance of foreign currency, technology-effect, structure of the power of decision, type of insertion in world trade, structure of trade by destination, induced structure of production by regional origin, etc."

^{2/} According to Monti, "'promotion' policies as such should be abandoned in favor of designing selective 'conduction' policies, with planning and participation, by activities, integrating production/substitution/exports in a single context in design and in operation." "Latin American Exports of Manufacture: Experiences and Problems" p. 25.

encountered in planning an economy that relies to a considerable extent on foreign trade.^{1/} By contrast, India provides an example where investment, production, and import controls applied in the process of planning compromised the effectiveness of export incentives and constrained the growth of the national economy.

To have the desired effects, the export incentive scheme--and the system of incentives in general--should also have the characteristics of stability and certainty. Frequent changes in the incentives tend to reduce their effectiveness. And while changes in the incentive system cannot be foregone, these should be carried out according to a predetermined timetable.

In this connection, it should be emphasized that the proposed incentive scheme could not be adopted overnight. Rather, it should be approached in steps generally involving the lowering and equalization of protection rates and the reduction of discrimination against exports over time. In this way, disruptions in production could be minimized.

In order to prepare firms for the prospective changes in incentives, these should be made known in advance. Infant industry protection, too, should be provided on a declining scale determined in advance. This would permit firms to take the necessary steps to reduce costs which was not the case in countries where protection was regarded as permanent.

Last but not least, exchange rate policy should aim at avoiding large shifts in export incentives that occur if devaluation takes place only intermittently. Thus, in the event that domestic prices rise at a higher rate than abroad, the example of countries, such as Brazil and Colombia, should be followed in devaluing pari passu with inflation.

^{1/} Bela Balassa, "The Economic Reform in Hungary," Economica, February, 1970, pp. 1-22.

Conclusion

In this paper, we have provided evidence concerning the favorable effects of export incentives on the growth of exports and that of the national economy. It has been shown that, in an intercountry framework, greater export orientation tends to be associated with better growth performance. Also, in the individual countries, economic growth generally accelerated following the introduction of export promotion schemes.

It further appears that growth has been the most rapid in countries, such as Korea, Singapore, and Taiwan, which most nearly conform to the "ideal" system of incentives described in Section III of the paper. The three countries provided a free trade regime for exports and ensured stability in the incentive system over time. They also granted comparable incentives to exports and to import substitution in manufacturing while there was little discrimination against primary activities.

The application of the proposed incentive scheme has been objected to on the grounds that the primary exports of developing countries encounter market limitations while their manufactured exports face high protection in the importing countries, in particular the developed nations. Experience shows that these objections have been much exaggerated.

Apart from tropical beverages, for most primary exports by the developing countries the main limitations appear to have been on the supply rather than on the demand side. Thus, until recently, the developing countries were losing ground to the developed nations in the world market for cereals and oil seeds.

Also, notwithstanding the application of tariffs and other restrictions in the developed nations, manufactured exports from the developing countries rose much more rapidly than it had been foreseen. Between 1960 and

1966, these exports increased at an average annual rate of 12 percent; they rose 25 percent a year between 1966 and 1973 as against an annual rate of increase of 17 percent for the manufactured exports of the developed nations.

In turn, the possibilities for the further expansion of manufactured exports from the developing countries are indicated by the fact that these countries account for less than seven percent of the imports of manufactured goods by the developed nations and for not quite one percent of their domestic sales of manufactured goods. If the domestic market for manufactured goods in the developed nations were to increase by one-half during a decade and the developing countries were to supply one-tenth of this increment, they could increase their exports of manufactured goods to the developed nations from \$16 billion in 1973 to over \$100 billion (in 1973 prices) ten years later.

An increase of such a magnitude would, however, necessitate a considerable degree of diversification in the manufactured exports of the developing countries. Such a diversification is under way in Korea, Singapore, and Taiwan with the upgrading of their existing exports and increased reliance on the exports of machinery and equipment. For other developing countries, such as Brazil, the exports of automobiles and steel may provide promise. Finally, developing countries may increase their participation in the international division of the production process by manufacturing parts, components and accessories of durable goods.

In a number of products, the developing countries could take over markets from countries which have recently become developed, such as Japan, whose comparative advantage is shifting to more advanced products. At the same time, the acceptability of manufactured imports from developing countries is greater if these replace imports from other developed countries rather than domestic production.

Nevertheless, possibilities exist for further expansion even in the exportation of textiles and clothing which is the single largest product group in developing country exports to the developed nations, amounting to 37 percent of the total. In this connection, note that the developing countries account for less than one-fourth of the imports and less than four percent of domestic sales of textiles and clothing in the developed nations.

Rather than market limitations, the main danger appears to be that, in response to adverse changes during the world recession of 1974-75, developing countries may again turn to import substitution. Yet, the particularly severe recession reflects a confluence of circumstances -- the quadrupling of oil prices together with the after effects of the superboom of 1972-73 -- that cannot be expected to recur.

Aside from the resulting misallocation of resources, adopting an inward-looking policy would compromise chances for participation in the renewed growth of world trade. In fact, it appears that the policies followed have affected the success of the individual countries in resuming export growth following the recession. Thus, the exports of manufactured goods increased by two-thirds between the second quarter of 1975 and that of 1976 in Korea that maintained a policy of export orientation. In turn, increases were considerably smaller in Brazil, Colombia, and Mexico that have adopted measures entailing increased discrimination against exports.

Apart from exporting to the developed countries, Korea and Taiwan have also been successful in the rapidly-growing markets of the oil-exporting countries, particularly in the Middle East. The total imports of the oil-exporting countries rose from \$20 billion in 1973 to \$55 billion in 1975, exceeding two-fifths of the imports of the oil-importing developing countries.

With the continuing rapid expansion of the imports of the oil-exporting countries, the oil-importing developing countries could derive considerable benefit from efforts aimed at these markets. In turn, the prospects for trade among the oil-importing developing countries appear modest, as countries that have established an industrial base have similar product specialization while countries at lower levels of industrialization tend to protect the products of those industries in which the more advanced developing countries have export potential. In this connection, comparisons may be made with export possibilities to the developed countries where the annual increment in the imports of manufactured goods between 1972 and 1973, and again between 1973 and 1974, was greater than the manufactured imports of all the oil-importing developing countries combined.

Nevertheless, the expansion of exports by the developing countries to the developed nations would be measurably helped by reductions in barriers to trade by the latter. At the same time, the lowering of trade barriers is also of interest to the developed nations, in part because they benefit from the reallocation of resources according to comparative advantage and in part because more rapid growth resulting from the application of export-oriented policies increase demand for the products of their technologically-advanced industries by the developing countries.

APPENDIX TABLE 1

TRADITIONAL EXPORTS OF SELECTED DEVELOPING COUNTRIES

<u>ARGENTINA</u>	1953		1960		1966		1973	
SITC Code	\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
011 Meat, fresh etc.	76.6	(6.8)	158.2	(14.7)	307.7	(19.3)	639.9	(19.6)
013 Meat, canned	124.9	(11.1)	61.8	(5.7)	85.3	(5.4)	149.1	(4.6)
041 Wheat, unmilled	190.6	(16.9)	142.7	(13.2)	279.6	(17.5)	273.8	(8.4)
044 Maize, unmilled	58.9	(5.2)	124.2	(11.5)	200.7	(12.6)	365.3	(11.2)
045 Cereals, unmilled	22.5	(2.0)	34.2	(3.2)	51.4	(3.2)	200.5	(6.1)
051 Fruit, fresh & nuts	53.0	(4.7)	24.9	(2.3)	39.3	(2.5)	50.1	(1.5)
081 Fodder, nes.	62.4	(5.5)	73.7	(6.8)	97.6	(6.1)	165.5	(5.0)
211 Hides & skins	60.6	(5.4)	70.0	(6.5)	75.2	(4.7)	23.3	(0.7)
262 Wool	179.0	(15.9)	146.2	(13.5)	132.9	(8.3)	188.2	(5.8)
412 Vegetable oils & fats	34.7	(3.1)	72.5	(6.3)	71.1	(4.5)	85.5	(2.6)
<u>Total</u>	<u>863.2</u>	<u>(76.7)</u>	<u>908.4</u>	<u>(84.2)</u>	<u>1340.8</u>	<u>(84.2)</u>	<u>2141.2</u>	<u>(65.6)</u>

<u>BRAZIL</u>	1953		1960		1966		1973	
SITC Code	\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
0711 Coffee, green, roasted	1042.1	(67.7)	712.7	(56.2)	764.0	(43.9)	1244.3	(20.1)
0721 Cocoa beans, raw, roasted	73.6	(4.8)	69.2	(5.4)	50.7	(2.9)	88.5	(14.3)
2432 wood, shaped, coniferous	45.5	(2.9)	42.7	(3.4)	56.2	(3.2)	80.7	(1.3)
2631 Raw cotton	107.5	(7.0)	45.6	(3.6)	111.0	(6.4)	218.1	(3.5)
<u>Total</u>	<u>1268.7</u>	<u>(82.4)</u>	<u>870.2</u>	<u>(68.6)</u>	<u>981.9</u>	<u>(56.4)</u>	<u>1631.6</u>	<u>(26.3)</u>

<u>CHILE</u>	1953		1960		1966		1973	
SITC Code	\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
281 Iron ore & concentrates	12.8	(3.1)	35.2	(7.2)	78.0	(8.9)	55.6	(4.5)
2712 Natural sodium nitrate(saltpetre)	54.4	(13.3)	25.9	(5.3)	24.2	(2.8)	16.9	(1.4)
68212 Copper, refined	127.8	(31.2)	150.5	(30.7)	355.4	(40.6)	575.2	(46.7)
68211 Copper, unrefined	100.9	(24.6)	187.0	(34.7)	229.2	(26.2)	326.4	(26.5)
<u>Total</u>	<u>295.9</u>	<u>(72.2)</u>	<u>398.6</u>	<u>(81.3)</u>	<u>686.8</u>	<u>(78.4)</u>	<u>974.1</u>	<u>(79.1)</u>

<u>COLOMBIA</u>	1953		1960		1966		1973	
SITC Code	\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
0711 Coffee, green roasted	492.2	(82.6)	332.2	(71.4)	328.3	(64.6)	597.9	(50.9)
331 Crude Petroleum	76.3	(12.8)	80.0	(17.2)	71.7	(14.1)	26.8	(2.3)
<u>Total</u>	<u>568.5</u>	<u>(95.4)</u>	<u>412.2</u>	<u>(88.6)</u>	<u>401.0</u>	<u>(78.9)</u>	<u>624.7</u>	<u>(53.2)</u>

<u>INDIA</u>	1953		1960		1966		1973	
SITC Code	\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
0517 Nuts, edible, fresh or dry	23.7	(2.1)	39.8	(3.0)	73.2	(4.0)	102.0	(3.4)
0741 Tea	218.7	(19.4)	260.0	(19.5)	252.2	(13.7)	186.3	(6.3)
075 Spices	36.3	(3.2)	60.6	(4.6)	46.4	(2.5)	54.6	(1.8)
121 Tobacco, unmanufactured	23.7	(2.1)	30.7	(2.3)	34.3	(1.9)	80.8	(2.7)
2837 Manganese ore and concentrates	52.2	(4.6)	29.5	(2.2)	22.9	(1.2)	10.3	(0.3)
<u>Total</u>	<u>354.6</u>	<u>(31.4)</u>	<u>420.8</u>	<u>(31.6)</u>	<u>429.0</u>	<u>(23.4)</u>	<u>434.0</u>	<u>(14.7)</u>

<u>ISRAEL</u>		1953		1960		1966		1973	
SITC Code		\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
0511	Oranges, tangarines	18.7	(31.2)	38.5	((18.2)	57.6	(11.4)	70.0	(4.6)
0512	Lemons, grapefruit etc.	3.8	(6.3)	6.7	(31.7)	na		40.0	(2.7)
6672	Diamonds, non- industrial, unset	13.3	(22.2)	60.9	(28.9)	189.5	(37.6)	617.1	(40.1)
<u>Total</u>		<u>35.8</u>	<u>(59.7)</u>	<u>106.0</u>	<u>(50.2)</u>	<u>247.1</u>	<u>(49.1)</u>	<u>727.1</u>	<u>(47.4)</u>

<u>KOREA</u>		1953		1960		1966		1973	
SITC Code		\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
ex-0548	Edible vegetables n.e.s. (seaweeds)	0.8	(2.0)	1.3	(4.0)	8.7	(3.5)	7.6	(0.2)
2613	Raw silk	6.3	(15.7)	1.0	(3.0)	11.6	(4.6)	72.8	(2.3)
2839	Tungsten ores & concentrates	15.8	(39.5)	4.7	(14.2)	9.5	(3.8)	10.3	(0.3)
ex-2924	Vegetables used in pharmacy (agar-agar)	2.3	(5.8)	0.9	(2.7)	2.9	(1.2)	7.2	(0.2)
<u>Total</u>		<u>25.0</u>	<u>(63.0)</u>	<u>7.9</u>	<u>(23.9)</u>	<u>32.8</u>	<u>(13.1)</u>	<u>97.9</u>	<u>(3.0)</u>

<u>TAIWAN</u>		1953		1960		1966		1973	
SITC Code		\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
042	Rice	13.4	(10.5)	5.1	(3.4)	29.7	(5.6)	14.4	(0.3)
051	Fruit, fresh & nuts	3.1	(2.4)	6.1	(4.1)	48.4	(9.0)	29.3	(0.7)
061	Sugar & honey	85.8	(67.5)	72.2	(48.5)	52.7	(9.9)	90.2	(1.9)
0741	Tea	6.8	(5.3)	6.1	(4.1)	9.9	(1.8)	19.4	(0.4)
<u>Total</u>		<u>109.1</u>	<u>(85.8)</u>	<u>89.4</u>	<u>(60.1)</u>	<u>140.8</u>	<u>(26.3)</u>	<u>153.2</u>	<u>(3.4)</u>

<u>MEXICO</u>		1953		1960		1966		1973	
SITC Code		\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
031	Fish, fresh etc.	35.1	(6.0)	36.5	(4.8)	56.9	(4.8)	111.0	(5.4)
0711	Coffee, green, roasted	72.1	(12.3)	71.9	(9.4)	86.1	(7.2)	167.7	(8.1)
2631	Raw cotton	140.4	(24.0)	157.9	(20.7)	221.9	(18.5)	166.0	(8.0)
283	Non-ferrous metals ores & concentrates	18.7	(3.2)	23.0	(3.0)	37.9	(3.2)	23.9	(1.1)
6711	Silver, un- worked or partly worked	27.4	(4.7)	24.5	(3.2)	35.4	(2.9)	11.3	(0.5)
6821	Copper unwrought	36.0	(6.1)	24.9	(3.3)	7.6	(0.6)	31.8	(1.5)
6851	Lead unwrought	56.7	(9.7)	31.0	(4.1)	27.6	(2.3)	22.8	(1.1)
	<u>Total</u>	<u>386.3</u>	<u>(66.0)</u>	<u>378.0</u>	<u>(49.5)</u>	<u>473.5</u>	<u>(39.5)</u>	<u>534.3</u>	<u>(25.8)</u>

<u>YUGOSLAVIA</u>		1953		1960		1966		1973	
SITC Code		\$ mn	%	\$ mn	%	\$ mn	%	\$ mn	%
011	Meat, fresh, etc.	8.2	(4.4)	28.3	(5.0)	105.4	(8.6)	170.9	(5.7)
121	Tobacco, un- manufactured	5.6	(3.0)	19.8	(3.5)	32.2	(2.6)	32.5	(1.1)
243	Wood, shaped	40.6	(21.8)	41.2	(7.3)	45.2	(3.7)	140.7	(4.6)
6821	Copper, unwrought	10.0	(5.4)	0.0	(0.0)	0.1	(0.0)	94.2	(3.1)
6851	Lead, unwrought	15.4	(8.3)	13.8	(2.4)	16.7	(1.4)	16.5	(0.5)
	<u>Total</u>	<u>79.8</u>	<u>(42.9)</u>	<u>103.1</u>	<u>(18.2)</u>	<u>199.5</u>	<u>(16.4)</u>	<u>454.8</u>	<u>(15.0)</u>

Source: See Table 1

Note: Figures in parentheses are percent shares in total exports.

EXPORTS AND THE MANUFACTURING SECTOR IN SELECTED DEVELOPING COUNTRIES

	(million U.S. dollars)										
	Argentina	Brazil	Chile	Colombia	India	Israel	Korea	Mexico	Singapore	Taiwan	Yugoslavia
<u>Export Values</u>											
<u>1953</u>											
Traditional primary	863	1269	295	568	355	36	25	386	n.a.	112	80
Nontraditional primary	159	255	90	21	212	2	13	131	n.a.	10	63
Primary exports, together	1022	1524	385	589	567	38	38	517	n.a.	122	143
Manufactured goods	103	15	25	7	549	22	2	68	n.a.	6	43
Total exports	1125	1539	410	596	1116	60	40	585	n.a.	128	186
<u>1960</u>											
Traditional primary	908	870	399	412	421	106	8	378	-	89	103
Nontraditional primary	128	370	60	46	310	36	19	285	48	23	223
Primary exports, together	1036	1240	459	458	731	142	27	663	48	112	326
Manufactured goods	43	29	31	7	600	69	5	100	23	37	240
Total exports	1079	1269	490	465	1331	211	32	763	71	149	566
<u>1966</u>											
Traditional primary	1341	982	687	401	429	247	33	474	-	141	199
Nontraditional primary	154	634	114	65	525	96	66	520	230	151	256
Primary exports, together	1495	1616	801	466	954	343	99	994	230	292	455
Manufactured goods	98	125	74	42	882	160	151	205	85	243	765
Total exports	1593	1741	875	508	1836	503	250	1199	315	535	1220
<u>1973</u>											
Traditional primary	2141	1632	974	625	434	727	98	534	-	153	455
Nontraditional primary	389	3338	183	322	1048	287	416	796	799	722	524
Primary exports, together	2530	4970	1157	947	1482	1014	514	1330	799	875	989
Manufactured goods	736	1229	74	228	1469	495	2711	740	1001	3606	2031
Total exports	3266	6199	1231	1175	2961	1509	3225	2070	1800	4481	3020
<u>Manufacturing Sector (1973)</u>											
output	20706	27851	3002	3041	16893	3504	6687	16781	2350	7225	12024
less exports	736	1229	74	228	1469	495	2711	740	1001	3606	2031
plus imports	1147	4107	622	772	1622	1691	2364	2872	2439	2306	3173
utilization	21117	31629	3550	3585	17046	4700	6340	18913	3788	5925	13166

Sources: Exports: National and International Trade Statistics.

Manufactured Output: United Nations - The Growth of World Industry, various issues, and national statistics.

Note: The dollar values of manufactured output and GNP have been derived by converting data expressed in terms of national currencies by the use of exchange rates shown in the World Bank Tables, 1976. An exception has been made in the case of Korea where the 1960 official exchange rate was adjusted for the devaluation undertaken in early 1961 and for wholesale price changes.

In the absence of manufactured output figures for 1960, these have been derived from the 1966 figures by utilizing growth rates of value added in manufacturing and inflation in prices of manufactured goods for the period 1960-66. The same method has been applied in cases where 1973 manufactured output figures are not available.

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