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Recent Shifts in Industrialization Strategies and Trade Patterns of ASEAN Countries

Romeo M. Bautista

Post-war Industrialization and Trade Patterns

Post-war industrial development in the ASEAN countries has generally followed the familiar sequence of import substitution and export expansion. The primary motivations for promoting industrialization were more or less similar, namely, the desire to diversify the economy from an over-reliance on primary production (in the case of Singapore, on entrepôt trade) and to accelerate economic growth. There were significant differences, however, in their industrialization experiences that account in part for the variations in the current state of their industrial development. One important difference relates to the extent and duration of import-substitution policies adopted.

Singapore's industrialization had only a brief import-substitution phase, which was in the early 1960s, and even in this period protective tariffs and quota restrictions were moderate. Export industries were subsequently encouraged, government policies and infrastructure support initially concentrating on labour-intensive industries.

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The Economic Expansion Incentives Act of 1967, which modified the 1959 tax incentives and introduced new ones, served to reorient the incentive structure favouring pioneer and export industries. At the same time, institutional facilities were developed to assist manufacturing investments and foster industrial peace.

The manufacturing sector of Singapore underwent rapid growth in the 1960s and 1970s, expanding production at an average annual rate of 12 per cent during each of the two decades. Its contribution to GDP increased from 12.8 per cent in 1960 to 20.5 per cent in 1970 to 24.1 per cent in 1980.

Largely due to the "rapid success of export industrialization and mass employment creation",¹ economic policy since 1970 has placed increasing emphasis on industries requiring higher levels of skill, capital, and technology,² at the same time diversifying the Singaporean economy into trade services, namely tourism, transport and communication, and financial services.³

Table 1 gives some indication of the shifts in Singapore's industrial structure since 1960. The share of textiles, clothing and footwear (which are labour-intensive production activities) in manufacturing value added is seen to have decreased from 1960 to 1970 to 1980. Also, the contributions of the metal and wood industries declined over the two decades, more rapidly so in the

TABLE 1
Singapore: Composition of Manufacturing Value
Added, 1960, 1970, 1981
(In percentages)

	1960	1970	1980
Food and beverages	25.6	10.2	4.5
Textiles	3.1	2.2	1.7
Wearing apparel	3.1	3.0	2.9
Wood products	7.1	5.5	1.8
Furniture	1.0	1.0	1.0
Paper products and printing	18.5	5.8	4.7
Chemical products	6.8	4.5	4.8
Petroleum	6.8	19.2	18.4
Rubber and plastic products	2.6	2.9	2.4
Non-metallic minerals	3.8	3.0	2.6
Basic metals	1.3	2.0	1.5
Fabricated metal products	7.6	6.6	4.6
Machinery and appliances	10.1	14.2	32.3
Transport equipment	5.8	14.6	13.8
Precision equipment	6.7	0.3	1.4
Other products	6.7	5.0	1.6
TOTAL	100.0	100.0	100.0

SOURCES: *Report on the Census of Industrial Production, 1960* (Singapore: Department of Statistics); *Yearbook of Statistics, Singapore, 1978-79* (Singapore: Department of Statistics); and *Economic Survey of Singapore, 1981* (Singapore: Ministry of Trade and Industry).

seventies. By 1980 three major industries had emerged, namely, electrical machinery, petroleum, and transport equipment, which together account for close to two-thirds of manufacturing production. In view of the capital-intensive character of these industries, their employment contribution was much smaller (about 45 per cent).

In **Malaysia**, conscious efforts by the government to promote industrialization started after independence with the introduction of the Pioneer Industries Ordinance in 1958. It provided incentives to firms with pioneer status, exempting them from 40 per cent company income tax, among other fiscal incentives, and providing subsidies for infrastructure services such as electricity, water, and transport in industrial estates. The Malaysian Industrial Develop-

ment Finance Berhad was created in 1960 to extend medium- and long-term loans and technical assistance to manufacturing enterprises, and in 1965 the Federal Industrial Development Authority was established to oversee the country's industrialization drive.

Malaysian manufacturing developed at a fast pace from 1959 to 1968 under a system of modest tariff protection and liberal investment incentives. The average annual growth rate of real value added in the entire manufacturing sector was 17 per cent, while that of pioneer companies was understandably more impressive at 58 per cent (Lim 1981). Table 2 shows a significant decline in 1968 in the share of agriculture-based processing activities, while the newer industries, especially those producing intermediate and investment goods such as chemicals, non-metallic mineral products, basic metal

TABLE 2
Malaysia: Composition of Manufacturing Value
Added, 1959, 1968, 1980
(In percentages)

	1959	1968	1980
Processing of estate-type agricultural products	28.9	10.5	33.3
Food, beverages, and tobacco	24.1	28.3	
Textiles, clothing, and footwear	—	2.8	3.0
Wood and furniture	18.7	13.0	15.0
Paper, printing, and publishing	—	7.6	
Chemicals, petroleum, rubber and plastic products	16.5	17.9	11.0
Non-metallic mineral products	3.9	8.2	6.9
Basic metals and metal products	4.4	6.6	8.1
Machinery	1.8	2.2	3.4
Transport equipment	1.7	2.9	4.9
Other manufactures	—	—	12.4
TOTAL	100.0	100.0	100.0

SOURCES: Table 7-1 in Lim (1981) and *Fourth Malaysia Plan 1981-85*.

products, machinery, and transport equipment, apparently grew much faster and substantially increased their contribution to total manufacturing output.

In 1968 the Investment Incentives Act was passed, in effect superseding the 1958 ordinance and making important changes in economic incentives and coverage of firms beyond those obtaining pioneer status. In particular, export-oriented industries were accorded specific benefits. Among other means of export infrastructure support, free trade zones and export processing zones were set up in selected parts of Malaysia, and a National Export Advisory Council and an export insurance system were created to assist export development.

Subsequent industrial growth was rapid, manufacturing output having expanded more than threefold between 1968 and 1980. As shown in Table 2, textiles and clothing, transport equipment, and machinery posted substantial gains in their contribution to total manufacturing production. These industries also accounted for an increasing proportion of Malaysia's manufactured exports in the 1970s.

Among the ASEAN countries, the **Philippines** has the longest history of conscious policies to encourage industrial development. Import substitution as an industrialization strategy started in 1949 when controls on imports and foreign exchange were instituted as an *ad hoc* response to a severe balance of payments problem. What was initially viewed as a curb on the consumption of less essential imports soon became a protective device to encourage production of their substitutes. Decontrol and devaluation in the early 1960s did not alter very much the incentive structure favouring import-substituting industries that mainly produced consumer goods at the finishing stages. Heavy protection was accorded domestic industries by a "cascading" tariff structure which served to maintain the qualitative biases of the pre-decontrol policy regime against backward

integration, export expansion, and labour absorption.

Sluggish manufacturing growth from the late 1950s,⁴ by which time the exuberant phase of import substitution had been exhausted, increasingly made clear the need to orient local industries towards the foreign market. In 1970 a *de facto* devaluation of the domestic currency accompanied by discriminatory "stabilization measures" favouring non-traditional (manufactured) exports⁵ and the enactment of the Export Priorities Act significantly improved the incentive structure for manufactured exports. Several measures were also adopted in line with export infrastructure development, including the establishment of an export processing zone and a government trading corporation to serve as the central clearing house for bulk trading and financing, and efforts at simplifying export documentation and procedures.

The remarkable response of manufactured exports, which expanded at an average annual rate of about 50 per cent (in current U.S. dollar prices) during 1970-73, provided the stimulus for the acceleration of manufacturing growth (from 3.7 per cent in 1969 to 14.8 per cent in 1973) before being interrupted by adverse external conditions in 1974 and 1975 (cf. Bautista, Power and Associates 1979, p. 26). A slow recovery was underway in the following years, the manufacturing sector growing at a 6.2 per cent annual average during 1975-80.

The policy bias in the 1950s and 1960s towards import-substituting industries is reflected in the changing composition of manufacturing value added. As may be discerned from Table 3, such industries as textiles, paper products, plastic products, electric appliances, and transport equipment expanded relatively rapidly. These products were mainly import-replacing consumer goods. In the 1970s, rising exports of clothing and footwear, electronic products, automotive parts, and chemicals enabled the industries producing such products to increase their share in manufacturing value added.

TABLE 3
Philippines: Composition of Manufacturing Value Added, 1948, 1959, 1971, 1980
(In percentages)

	1948	1959	1971	1980
Food, beverages, and tobacco	60.6	42.2	38.6	38.2
Textiles	2.6	4.8	7.4	6.6
Clothing and footwear	6.8	5.4	1.8	4.1
Wood and furniture	11.5	5.0	5.4	3.0
Paper, printing, and publishing	3.7	5.1	5.2	4.7
Chemicals, rubber and plastic products	3.5	12.9	14.9	16.0
Non-mineral metallic products	2.1	3.4	5.4	4.1
Basic metals and metal products	3.8	5.5	5.7	6.6
Non-electrical machinery	0.5	1.4	0.8	1.2
Electrical machinery	0.5	3.5	3.1	5.0
Transport equipment	1.0	3.7	2.7	4.4
Other manufactures (including petroleum products)	5.7	7.1	9.0	6.1
TOTAL	100.0	100.0	100.0	100.0

SOURCES: R.M. Bautista, J.H. Power and Associates, *Industrial Promotion Policies in the Philippines* (Metro Manila: Philippine Institute for Development Studies, 1979), Table 8-6 and *1981 Philippines Statistical Yearbook* (National Economic and Development Authority).

Modern industrialization in **Thailand** began only in the early sixties. With the introduction of the New Investment Promotion Act in 1962, a policy of import substitution was adopted, relying on protective tariffs and indirect subsidization under the industrial promotion scheme. As in the Philippine case, the policy led to the establishment of manufacturing industries producing mainly consumer goods, heavily dependent on imported capital equipment and intermediate products, and unable to absorb much of the country's unemployed and underemployed labour force.

By the early 1970s government policy began to place greater emphasis on export industries. In 1972 the Export Promotion Act was introduced, exempting exporters from the business tax and from taxes on imported inputs (among other fiscal incentives). An Export Promotion Committee was established in the same year in order to co-ordinate export promotion efforts. Nonetheless, import-substitution policies (especially tariff protection) persisted through the decade even as manufactured

exports were actively being promoted (Akransee 1980).

Manufacturing value added in Thailand grew at an average annual rate of 11 per cent at constant prices in the 1960s and 1970s. Next to domestic demand, import substitution was the major source of growth in the sixties, while export expansion became the second most important source in the seventies (World Bank, 1980).

Processed food, beverages, and tobacco heavily dominated Thai manufacturing in the early 1960s (Table 4). This sector's share diminished through the sixties and seventies with the growth of import-replacing industries (petroleum products, transport equipment, and non-durable consumer goods) and the expansion of non-traditional manufactured exports (textiles, clothing, and electronic products).

The present low level of industrial development in **Indonesia** needs to be viewed in light of the country's economic stagnation in the 1950s and the greater part of the 1960s.⁶ After the enactment of domestic and foreign investment laws in

TABLE 4
Thailand: Composition of Manufacturing Value
Added, 1962, 1972, 1979
(In percentages)

	1962	1972	1979
Food	36.4	18.6	15.3
Beverages	10.7	9.0	11.6
Tobacco and snuff	13.4	9.3	6.6
Textiles	2.6	12.2	14.3
Wearing apparel and made-up textile goods	3.9	6.1	10.0
Wood and cork	4.7	2.5	1.4
Furniture and fixtures	1.3	1.1	0.9
Paper and paper products	0.3	0.7	1.2
Printing, publishing, and allied industries	2.0	2.5	2.6
Leather and leather products (and footwear)	1.6	1.1	0.5
Rubber and rubber products	2.8	1.8	2.6
Chemicals and chemical products	6.3	5.7	6.6
Petroleum, refining, and coal	—	8.6	5.9
Non-metallic mineral products	5.7	5.7	5.9
Basic metals	0.2	1.8	1.2
Electrical machinery and supplies	0.5	1.4	1.7
Non-electrical machinery	3.3	2.2	1.7
Transport equipment	3.3	5.0	7.8
Other manufactures	4.3	4.4	3.0
TOTAL	100.0	100.0	100.0

SOURCE: *National Income of Thailand* (1966 edition) and Table 8.3 in World Bank (1980).

1967 and 1968 and the launching of Repelita I (First Development Plan, 1969–74) under Soeharto's "New Order", the economy grew rapidly, particularly the mining and manufacturing sectors the expansion of which was fuelled by extractive exports and domestic demand for industrial consumer goods respectively. Since manufacturing constituted only a minor sector in the Indonesian economy before 1968, there was also much scope for import substitution — which was promoted by the new policy measures protecting domestic industries

producing consumer goods from competing imports (Anwar 1980). As a result, Indonesia's imports of consumer goods as a proportion of total imports decreased from 42.7 per cent in 1966 to 16.1 per cent in 1972 (Wong 1979, p. 164). Import substitution appeared to have slackened subsequently, as the share of consumer goods other than rice, flour, and sugar rose from 9 per cent in 1972 to 11 per cent in 1977.⁷ On the other hand up to the late seventies, manufactured products comprised less than 5 per cent of Indonesia's exports. It seems reasonable to infer therefore that domestic demand expansion was the major source of the more than 10 per cent average annual growth of manufacturing production in the 1970s.

As shown in Table 5, food, beverages, and tobacco accounted for more than half of manufacturing value added in Indonesia in 1972; chemicals, petroleum, and rubber and plastic products contributed about one-fifth while the share of textiles, clothing, and footwear was 11 per cent. By 1979 the share of the first group had decreased to one-third, the second also becoming less

TABLE 5
Indonesia: Composition of Manufacturing Value
Added, 1972 and 1979
(In percentages)

	1972	1979
Food, beverages, and tobacco	50.8	33.6
Textiles, clothing, and footwear	10.9	15.4
Wood and furniture	2.9	4.6
Paper, printing, and publishing	2.3	3.5
Chemicals, petroleum, rubber and plastic products	21.3	17.4
Non-metallic mineral products	4.0	8.8
Basic metals	—	1.3
Metal products, machinery, and transport equipment	6.8	15.1
Other manufactures	1.0	0.3
TOTAL	100.0	100.0

SOURCES: J. Wong, *ASEAN Economies in Perspective* (London: Macmillan, 1979), Table 3.8 and *Statistik Industri 1979* (Biro Pusat Statistik, Indonesia).

dominant, while the third group and metal products, machinery, and transport equipment assumed greater significance.

The above review of ASEAN countries' industrial development indicates that trade has been an important component of the industrialization strategy. Although the early phase of their industrial development gave emphasis to the replacement of imports, the ASEAN countries sooner or later moved towards more manufacturing for export. Lacking a sizeable domestic market, Singapore and Malaysia quickly shifted to the exporting of manufactured goods in the mid- and late sixties respectively. The Philippines and Thailand began to focus on exports of manufactures in the early 1970s. More recently, the Indonesian Government has recognized the need to expand non-oil exports, including manufactured exports during the Repelita III period (1978/79-83/84) owing to the uncertain prospects of oil production and exports.

As is evident in Table 6, there was rapid growth of ASEAN manufactured exports during the 1970s, despite adverse conditions in the world economy. Manufactured exports were almost unheard of in the early sixties, except in Singapore (where slightly over one-quarter of total exports in 1960 were products of light industry); by the late seventies, manufactures comprised more

than one-third of Philippine exports, one-quarter of Thailand's and one-fifth of Malaysia's (Table 7). Industrial market economies accounted on the average for 58 per cent of ASEAN countries' manufactured exports in 1978,⁸ ranging from 47 per cent for Indonesia to 78 per cent for the Philippines; slightly less than 40 per cent went to other developing countries while capital surplus oil exporters accounted for less than 3 per cent.

There are some differences in the commodity composition of ASEAN manufactured exports. Singapore, the largest exporter of manufactured products among the ASEAN countries, has had remarkable success in exporting engineering goods (such as electrical machinery and telecommunications equipment) and chemicals. At the other extreme Indonesia, whose exports of manufactures is smallest in the region, has wood products as the most important industrial export category. Manufactured exports of Malaysia have the largest concentration in electronic products, wood manufactures, and processed food. For Thailand, exports of textiles, garments, jewellery, and processed food have grown most rapidly. Finally, in the Philippines, the bulk of manufactured exports has comprised garments, electronic products, food manufactures, and handicrafts.

These patterns of export product concentration appear to conform to the ASEAN countries' comparative advantage in international trade. All the ASEAN economies except Singapore have rich natural resources and in the early 1970s also had abundant labour. Their factor endowments favoured therefore the production and export of natural resource-based products (for example, processed food, wood products, jewellery) and labour-intensive goods (for example, garments, textiles, and electronic products) requiring low levels of capital and technology. The latter type of products had been the concentration of Singapore's exports in the 1960s when the labour force was underutilized and wages

TABLE 6
ASEAN Countries: Exports of Manufactures,*
1965-78
(In current \$ U.S. millions)

	1965	1970	1975	1978
Indonesia	10.9	11.9	75.0	226
Malaysia	67.8	151.7	664.4	1714
Philippines	65.8	78.4	258.9	1136
Singapore	300.4	427.6	2232.6	4679
Thailand	12.1	38.6	332.0	1039

SOURCES: Table 12.5 in Hughes (1980); Table 12 in *World Development 1981*.

*SITC 5 to 8, Series 68. Includes re-exports to Singapore.

TABLE 7
ASEAN Countries: Structure of Merchandise Exports
(In percentages)

	<i>Indonesia</i>	<i>Malaysia</i>	<i>Philippines</i>	<i>Singapore</i>	<i>Thailand</i>
Fuels, minerals, and metals					
1960	33	20	10	1	7
1978	72	27	14	31	11
Other primary products					
1960	67	74	86	73	91
1978	26	52	52	23	64
Manufactures					
1960	0	6	4	26	2
1978	2	21	34	46	25
Textiles and clothing					
1960	0	(.)	1	5	0
1978	(.)	2	6	5	10
Machinery and transport equipment					
1960	(.)	(.)	0	7	0
1978	1	11	2	25	3
Other manufactures					
1960	(.)	6	3	14	2
1978	1	8	26	16	12
TOTAL	100	100	100	100	100

SOURCE: *World Development Report 1981*, Table 9.

NOTE: (.) means less than 1 per cent.

were low; this gave way to more technology- and capital-using export products (such as electrical machinery, telecommunications equipment, and chemicals) in the seventies as full employment was reached and labour cost increased.

As far as ASEAN imports are concerned, machinery and transport equipment constitute the most important product category, increasing significantly its share in total merchandise imports of all but one of the ASEAN countries in the 1960s and 1970s, as shown in Table 8. Other manufactures, presumably in the high technology field, are also seen in the table to account for a major share of ASEAN imports in the late seventies. These manufactured imports were sourced mainly from developed countries, the major contributors being Japan (38 per cent), the United States (18 per cent) and EEC countries (20 per cent). In the Philip-

pires and Thailand, the observed doubling of the fuel share from 1960 to 1978 largely reflects the difficulty of developing and substituting indigenous energy sources for imported oil after the drastic oil price hike in 1973-74.

Producer good categories, especially capital equipment, have increasingly dominated each ASEAN country's list of ten largest imports, reflecting a heavy reliance on external sources for the physical capital and intermediate good requirements of ASEAN's expanding manufacturing sector. This pattern of import concentration seems compatible with prevailing comparative advantage as the principal suppliers are high-income (wage) countries exporting products of low labour intensity.⁹

Another important aspect of ASEAN industrial development has been the participation of foreign investors. In encourag-

TABLE 8
ASEAN Countries: Structure of Merchandise Imports
(In percentages)

	<i>Indonesia</i>	<i>Malaysia*</i>	<i>Philippines</i>	<i>Singapore</i>	<i>Thailand</i>
Food					
1960	23	29	15	21	10
1978	18	17	8	10	4
Fuels					
1960	5	16	10	15	11
1978	9	13	21	24	21
Other primary commodities					
1960	10	13	5	38	11
1978	6	7	7	9	9
Machinery and transport equipment					
1960	17	14	36	7	25
1978	36	34	27	29	31
Other manufactures					
1960	45	28	34	19	43
1978	31	29	37	28	35

SOURCE: *World Development Report 1981*, Table 10.

* 1977 instead of 1978 figures.

ing direct foreign investment, the ASEAN countries have been concerned not only with the inflow of external capital that supplements domestic saving. Foreign investment is also regarded as a means of acquiring needed technology, developing domestic skills and gaining access to foreign markets.

On a net basis direct foreign private investment flowed into the ASEAN economies at an average annual value of US\$1.64 billion during 1977-79,¹⁰ 40 per cent of which went to Malaysia and 32 per cent to Singapore. In these two countries such foreign investment represented about 15 per cent of annual gross domestic capital formation. Resource-based and capital-intensive industries requiring large-scale operations and modern machinery have been the general areas of concentration of foreign capital in the ASEAN countries, which seems consistent with the comparative advantage of multi-national corporations. There is also ample evidence that domestic policies in ASEAN have influ-

enced the market orientation of foreign firms, which tended not only to cater to the local market during periods of import substitution but also to exploit the export potentials of a country adopting an outward-looking industrial development strategy (cf. Wong 1979).

The latter case is well demonstrated in Singapore where foreign firms have contributed the bulk (about 85 per cent) of direct export sales among manufacturing establishments; much of the foreign investment has gone into petroleum refineries, scientific and precision instruments, and electronic products. A shift to greater export orientation among foreign firms in the other ASEAN countries has also been observed when industrial policy began to promote exporting of manufactured products.

Recent Shifts in Industrial Policy

What has been frequently called "industrial restructuring" in the context of some ASEAN countries refers to recent govern-

ment efforts to provide new directions for industrial development. Viewed from a long-term perspective, industrial transformation would seem a normal part of the dynamics of development; indeed, for small, open economies confronted with changing external parameters as exemplified by the dramatic developments in the world economy during the 1970s, structural adjustments are necessary for domestic industry to maintain international competitiveness and develop dynamically along lines of comparative advantage.

The need to improve industrial policy and facilitate desired structural changes in the manufacturing sector has assumed a measure of urgency in recent years for some ASEAN countries in the face of what is perceived to be an increasingly hostile external economic environment. Even before the last decade drew to a close, there were developments signalling a retreat from the vigorous growth of world trade that characterized most of the post-war period. In 1973-74 the oil crisis and the subsequent stagflation of the industrialized countries interrupted the impressive industrial development and export growth of the ASEAN countries. Despite the ensuing upsurge of protectionist measures, rapid expansion of ASEAN countries' manufactured exports appeared to have been restored by 1976-77. Hopes for sustained growth, however, were soon dashed as the external environment again turned adverse. The 1979-80 oil price increases, the resurgence of inflation in 1979 and 1980, the sluggish growth of industrial economies since 1980, and the intensification of protectionism in developed country markets meant, to most developing countries, a new round of adjustment. In the ASEAN countries this led to the realization that further improvements in economic management and policies are needed that could increase the efficiency with which domestic resources are used under emerging internal and external constraints.

The increased price of oil has raised different policy concerns for oil-exporting and

oil-importing ASEAN countries. For Indonesia especially (less so for Malaysia), an important consideration is how to provide adequate incentives for non-oil production and exports; such a diversification is deemed essential in any successful adjustment to a dynamic post-oil future. For the Philippines and Thailand, both heavily dependent on imported oil for their energy requirements, the increased cost of oil has made more urgent the need to earn and save foreign exchange efficiently through export expansion and import substitution. Policy efforts in these two countries have been directed at reducing the import requirements of domestic production and replacing more imports by domestically produced substitutes. There is recognition also that, while it is more difficult to expand exports at a time when world trade is less than buoyant, the deterioration in the balance of payments makes it more important to do so. In the case of Singapore, industrial restructuring — after the phenomenal success in labour-intensive export manufactures — called for the orientation of investment and production activities toward higher skills and technology that would enable the population to sustain high income growth.

As indicated above, industrial policy in **Singapore** began to shift to the promotion of higher value industries in the early 1970s. This was de-emphasized, however, in the mid-1970s in view of the recession in the international economy. In 1979 the government adopted three sets of measures heralding what has been termed a "Second Industrial Revolution" (Pang 1982). Firstly, a wage correction policy was introduced in an effort to restore wages to market levels; it was felt that since 1972 National Wages Council (NWC) guidelines on wage increases were relatively modest, effectively suppressing wage rates and encouraging excessive use of labour services which in turn led to labour shortages and slow productivity growth. Large wage increases averaging 20 per cent annually over the three-year period from 1979 to 1981 were

recommended by the Council, designed to force firms to improve efficiency of labour use. It has also been announced that future wage rises will be closely tied to increases in productivity.

A second set of new industrial policy measures entailed changes in investment incentives and the reorientation of incentives towards the promotion of a more limited number of priority industries; these favoured industries are highly skill- and capital-intensive, producing technologically sophisticated products. Some of these products are computers and peripheral equipment, instrumentation and industrial controls, precision machine tools and accessories, photographic and optical equipment, oil field equipment, aircraft components, and specialty industrial chemicals. The new investment incentives are designed to foster rapid technology transfer, allowing for the accelerated depreciation of machinery and equipment for research and development (R and D), double deduction for R and D expenditures and writing-off of lump sum payments for manufacturing licences. On the other hand, tariff protection has been removed for some industries catering mainly to the domestic market, for example, automotive assembly and other consumer durables producing industries (air-conditioners, televisions, refrigerators); this is aimed at promoting their efficiency or, in the case of internationally uncompetitive industries like automotive assembly and related industries, at phasing out such activities.

A final component of Singapore's industrial restructuring strategy has to do with the expansion of training and educational facilities for both prospective and already employed industrial workers, providing complementary support for the upgrading of skills and technology in industry. Manpower training, especially in the technical and professional fields, has been given emphasis since 1979, and this is reflected in sharply increased enrolments not only in professional faculties at the National

University of Singapore but also in the technical and vocational schools, and in the establishment of industrial training centres (sometimes jointly with private industry, international companies, and/or industrialized country governments). A national computerization campaign has also been launched aimed at laying a base for the development of a computer-software industry to spearhead the country's long-term effort to move away from labour-intensive to high-technology industry (*Economic Survey of Singapore*, 1981).

In the **Philippines** industrial restructuring aims primarily to improve the country's manufacturing capability in providing a broader and more competitive export base, and to promote "the development of an efficient domestic intermediate goods industry". Towards this end, the government has recently adopted major policy changes relating to: (1) tariffs and import licensing; (2) export promotion; (3) investment incentives and administration; (4) industrial revitalization; and (5) implementation of "major industrial projects". Some of these policy changes are being implemented in relation to the industrial structural adjustment loan (US\$200 million) granted by the World Bank in September 1980.

As a result of a comprehensive review of the tariff system during 1979-80, Executive Orders have been issued calling for tariff changes that will reduce the overall level of effective protection and making the rates more uniform across industries. Realignment of tariff rates for fourteen important industries¹¹ over a five-year period began on 1 January 1981. The peak tariff rates for other industries were reduced from 70 and 100 per cent to 50 per cent in two stages on 1 January 1981 and 1 January 1982. It has been estimated by the Tariff Commission, which published last February the *1982 Tariff and Customs Code*, containing the schedule of tariff rate changes for 1981 and 1985, that the average nominal protection for the manufacturing sector will be

reduced from 43 to 28 per cent, consumer good industries having the largest decline (from 77 to 39 per cent) over the five-year period. To complement the tariff reform programme, import licensing is also being gradually liberalized.

In 1979 and the early part of 1980, improvements in export incentives and promotional measures were instituted through (1) strengthening and broadening of fiscal incentives for export production and trading; (b) improvement of export financing facilities; (c) simplification of import and export procedures; and (d) liberalization of bonded manufacturing warehouse arrangements. Moreover, twelve export processing zones (EPZ) and industrial estates were planned to be developed during 1981-85, in addition to the three EPZ already in existence.

A review of the overall system of investment incentives is currently being undertaken with a view to reducing distortions (which affect relative labour use, firm size, and location of industries) and improving resource allocation. Simplification of Board of Investments procedures and increased automaticity in incentive availability are being considered. A significant step towards promoting competition is the phasing out of "over-crowded industries"; at the present time there are only five industries remaining in the list (which included some thirty industries in the early 1970s).

Trade liberalization and investment incentive rationalization are being accompanied by a "revitalization programme" designed to assist existing industries to produce at lower cost and improve their competitiveness, based on "positive" (for example, technical assistance and financing) rather than "negative" (protective) measures. The modernization and expansion of the textile industry, involving thirty existing textile mills and one entirely new mill, are being implemented under the US\$450 million programme for the industry, partly financed by the World Bank. The conversion to coal as fuel for ten cement

plants has been completed, and there are plans for general rehabilitation and expansion of the cement industry. Work is also under way on the details of revitalization programmes for other important industries, whose implementation will be assisted by financing packages to be arranged by the World Bank.

Eleven major industrial projects have been identified for implementation up to 1987 that would "produce vital commodities and intermediate inputs at internationally competitive prices, induce the establishment of downstream labour-intensive industries and enhance the country's technological capabilities."¹² These projects are highly capital-intensive and include the following: copper smelter, phosphate fertilizer plant, diesel engine manufacturing, cement industry rationalization, coco-chemical plant, aluminum smelter, integrated pulp and paper, petrochemical complex, heavy engineering industries, integrated steel project, and alcogas distillery. The first five of these projects are likely to be completed by the mid-eighties; the prospects of the others are dimmed by problems of financing and commercial viability. The aluminium smelter and petrochemical project, currently both in the feasibility study stage, have been acknowledged as "two of the most difficult projects".

A key component of the structural adjustment programme in the Philippines relates to energy conservation substitution and resource development, aimed at substantially reducing the country's dependence on imported oil. An Energy Priorities Program has been developed to encourage industries, through fiscal and other incentives, to shift to coal and non-conventional sources of energy and to invest in the manufacture of necessary equipment. The *National Energy Program 1981-86* projects a decline in the share of imported oil in total energy consumption from 87.5 to 45.8 per cent over the Program period due to higher contributions by coal, geothermal and hydroelectric energy, the programme

requiring at least 43 billion pesos at 1981 prices. Financial assistance is provided in part from the second World Bank structural adjustment loan (also US\$200 million) granted in August 1982. A third loan of the same amount is to finance mainly energy-related projects.

Thailand, also a recipient of the World Bank's structural adjustment loan (amounting to US\$150 million, approved in March 1981), is in the process of introducing a wide range of fundamental reforms not only in industry and energy but also in agriculture, fiscal policy, and development administration. According to the *Fifth Five-Year Plan* (1982-86), Thailand will face very serious and complex economic problems and social tensions "if structural adjustments and policy redirections are not timely made and effectively implemented". The objectives of the adjustment programme are to reduce the fiscal and current account deficits in the short term while raising the longer-term productivity of the agricultural and industrial sectors.

The industrial strategy aims to increase production and productivity in manufacturing, a sector which is targeted to grow at an annual rate of 7.6 per cent during the Plan period 1982-86. It includes policy efforts to reduce protection to domestic industry, to encourage manufactured exports, and to promote regional dispersal of industry. Investment incentives are to be improved in ways that would promote a sustained growth of industrial investments directed towards the most efficient uses. Expanded infrastructure support will be provided, among others, by the establishment of five industrial estates in addition to the four already existing.

Some policy measures recently adopted are consistent with the objective of reducing the existing biases against manufactured exports. Rebates on taxes and tariffs paid on imported intermediate inputs used in export production have been liberalized by eliminating the budget constraint and authorizing the calculation of *ad valorem*

rebates by category. Some steps are also being made towards the implementation of comprehensive tariff changes which will lower effective protection rates for import-substituting industries and raise those for export industries. Apparently levels of protection had risen since the mid-1970s due to government efforts to stimulate domestic investment. The 1977 Investment Promotion Law, which gave the Board of Investment various promotional powers, effectively reinstituted the import-substitution strategy for Thai industrialization (Akrasanee 1980).

It is now widely recognized that expansion of manufactured exports could contribute significantly not only to employment creation (because Thai export industries tend to be relatively labour intensive) but also to the alleviation of the country's severe current account deficits which in the last five years averaged more than US\$1 billion. In a longer-term context, it is also expected to promote a more efficient production structure and hasten future industrial growth.

The development of "basic industries", including iron and steel, fertilizer, soda ash and newsprint, has received increasing attention in recent years, especially with the expected production of natural gas. To the Ministry of Industry, the establishment of basic industries represents the next stage of Thai industrialization (Akrasanee 1980). There have also been some recent initiatives to support large-scale, capital-intensive projects by the Board of Investment, which is known to favour the setting up of an integrated steel plant. Also the Ministry of Finance and the Bank of Thailand have expressed readiness to assist in the financing of basic industrial projects using both domestic and foreign funding sources. It appears likely, therefore, that Thai industry, as in the Philippine case, would also move significantly towards import substitution in intermediate products in the 1980s.

In the field of energy, the country is not expected to break its dependence on

imported oil during the decade. This is despite the recent discoveries of natural gas, production of which is planned to reach at least 525 million cubic feet per day by 1986, and expanded production capacity of lignite. For the Plan period the target for oil imports is a zero growth rate in volume; this would require "that domestic oil price must be frequently and realistically adjusted", and that "energy saving measures must be seriously implemented". In the past Thailand had not adequately adjusted domestic prices of refined petroleum products, slowing down conservation efforts and reduction of the energy intensity of the country's economic structure (World Bank, 1980).

In **Malaysia**, industrial policy for the 1980s seeks to accelerate growth in the manufacturing sector and to achieve the objectives of the New Economic Policy (NEP). The NEP was introduced in 1971 to redress the economic imbalance of Malaysian society and "eliminate the identification of race with economic function". Accordingly, greater *bumiputra* (mainly Malay) participation in industries is being encouraged to ensure that the NEP's targets, especially with respect to equity ownership, employment, distribution of goods produced, and use of professional services in the manufacturing sector, will be attained (Hon 1982).

The diminishing labour surplus in major industrial areas has made the active encouragement of labour-intensive manufactured exports (for example, electronic products) less compelling, although incentives are being provided to increase the attraction of dispersal to new areas of lower wage costs. A continuing source of disappointment among Malaysian officials is the low value added in these export industries, in view of the heavy reliance of imported inputs (about 60 per cent of sales value in the electronics industry) and associated lack of investments in ancillaries and dissemination of technology and skills. Finally, there is also a perception of the uncertain prospects of these major manufactured exports for

the 1980s and of the need to further diversify the country's export structure.

The *Fourth Malaysia Plan 1981-85* envisages the further development of resource-based industries, particularly in the processing of cocoa, palm oil, and crude petroleum as well as in the manufacture of rubber and wood-based products for both export and home consumption. The number of resource-based industrial projects licensed by the Malaysian Industrial Development Authority (MIDA) had increased from 493 in 1971-75 to 685 in 1976-80; of the latter, 139 were approved in 1980 involving a total investment of M\$696 million.

The "new dimension" which recent industrial policy in Malaysia has added concerns "the promotion of investment in heavy industries", and the objective is "to strengthen the linkages and the structure of industrial development". The manufacture of capital goods is explicitly cited in the Plan as the next phase of industrialization that Malaysia will enter and this is considered to constitute the second "import-substitution wave" following the exhaustion of import-substitution opportunities in the consumer goods sector.

To initiate, plan, implement, and manage heavy industry projects, the government established the Heavy Industries Corporation of Malaysia (HICOM) in 1980 with an initial allocation of M\$125 million under the Fourth Malaysia Plan. HICOM has identified several projects for study and evaluation which, if found viable, will be implemented during the Plan period. These projects involve a wide range of products including basic metals, general engineering, transport equipment, other equipment and machinery, building materials, paper and paper products, and petrochemical products.

A broad-ranging review of the structure of industrial incentives in Malaysia, including incentives for regional dispersal, rapid technology transfer, and upgrading of labour skills, is being conducted by a gov-

ernment committee. Changes to be made will "reflect the priorities of industrial development" in the 1980s. Additionally, improvements in the administrative machinery for granting incentives and protection are being considered that would shift the system away from the case-by-case approach and streamline administrative procedures.

Recent policy adjustments in **Indonesia** have been aimed at reducing dependence on oil while maintaining high growth. In the past, it has relied on import substitution to save foreign exchange, and more recently, also on export earnings from oil; in future the country would turn to the expansion of non-oil exports, particularly in manufactures, to augment foreign exchange revenue. Export expansion is also deemed necessary to maintain a relatively high growth rate for the manufacturing sector in the face of a slower expansion of domestic demand due to the anticipated decline in GNP growth rates and reduced opportunities for import substitution in the coming years. Rapid industrial expansion in turn would contribute substantially to employment generation, which is an overriding policy concern in Indonesia.

Some product categories of manufactured exports are considered to hold great promise: (1) processed wood products, including sawn timber, plywood, veneer, and mouldings; (2) mineral-based products such as tin, alumina and aluminium, and nickel products; (3) labour-intensive products like textiles, batik garments, and leather products; and (4) food products such as shrimp and tapioca chips.

Following years of debate, export of logs is being phased out and a complete ban will be in effect by 1985. It is expected that this would boost exports of processed products like sawn timber, plywood, veneer, and perhaps even furniture and that the increased value added will offset the fall in the export proceeds from logs and at the same time provide additional employment and earnings to Indonesian workers.

A number of heavy industry projects have been identified for public investment, some already being constructed. The US\$2 billion aluminium smelter project in North Sumatra, which includes a huge hydroelectric power plant to provide the electricity for the smelter, was inaugurated last January and will initially produce 75,000 tonnes per year. An alumina plant is to be built at an estimated cost of US\$900 million in the bauxite-rich Bintang Island, which will supply the aluminium smelter with 450,000 tonnes of alumina by mid-1976 and export the remaining 150,000 tonnes of the plant's annual output. A planned expansion of a steel complex currently operated by state-owned Krakatau Steel would cost about US\$780 million, the new section producing cold-rolled steel sheets that are meant to replace imports. Among other large-scale industrial projects to be implemented in the near future are a one-million-ton capacity cement plant, two urea fertilizer plants, a US\$1.7 billion olefin centre, and a 90,000-tonne newsprint plant.

The competitiveness of Indonesian exports of labour-intensive manufactures and processed food products, which suffered as a result of the oil boom, appeared to have been greatly improved by the large devaluation of the rupiah in late 1978 (cf. Paauw 1981) and the slight but sustained depreciation against the U.S. dollar since early December of 1981. However, a major trade liberalization effort and other export promotion measures, including improvements in infrastructure and labour skills, are widely considered to be necessary for boosting the longer-term prospects of Indonesian manufactured exports.

The latest World Bank annual study of the Indonesian economy is reported to share the view of government technocrats "that current difficulties, resulting most immediately from world recession and the oil glut, may provide an unexpected opportunity to carry through some of the more painful adjustments such as improving tax collection and removing subsidies".¹³ For

the longer term, the policy adjustments involve: a change in the country's trade regime towards greater encouragement of exports; improving the investment and regulatory environment; raising the efficiency of financial intermediation; and adjusting domestic prices to reflect economic costs.

The package of policy measures recently adopted is designed to increase the competitiveness of Indonesian products in world markets. This includes cheaper export credits, export credit insurance, relaxation of some foreign exchange controls, and lower port charges. Also a part of the package is the controversial counter-purchase trade policy which requires foreign companies winning government-sponsored contracts to buy back Indonesian goods other than oil and gas equivalent in value to the equipment and materials they bring into the country.¹⁴ The government is also considering the establishment of export promotion centres abroad and the creation of trading companies. Finally, the need is also recognized for greater effort in improving ports and shipping services, export marketing and quality control, and incentives for all stages of production of export goods.

It would appear from the above discussion that, apart from the renewed vigour in the promotion of labour-intensive manufactured exports by the ASEAN governments — except Singapore and to a lesser extent Malaysia, which do not have the pressing employment problem that Indonesia, Thailand, and the Philippines are still confronted with — an emerging major component of ASEAN industrial policy (again with the exception of Singapore) is the active encouragement of basic (heavy, major) industries. The underlying motivation for this seems to derive from two sources. One is the perception of natural comparative advantage *vis-à-vis* foreign suppliers of products of resource-based industries. The other reason is that the establishment of basic industries is regarded as critical to the balanced development of

the manufacturing sector, not only producing finished goods but also providing the "basic industrial infrastructure".

Some ASEAN countries are the leading producers and exporters of certain primary and semi-processed products. With rapidly improving labour skills and technological competence, it is hardly surprising that increasing the domestic value added of resource-based products and the expansion of processed exports would be viewed as an additional means of promoting industrialization. One could discern also from official pronouncements¹⁵ some element of economic nationalism seeking to correct what is perceived to be an existing colonial trade pattern.

Processing of primary products for exports should of course be evaluated by the same criteria as those applied to any other industrial projects. It is possible that in some cases the very high capital-, scale-, or energy-intensity of the existing technology could offset completely the country's advantage of already producing the primary or semi-processed commodity. Moreover, the need to import intermediate inputs could reduce significantly the net foreign exchange gain from exporting processed rather than primary products. Finally, questions also might arise concerning market prospects.

Not all the basic industries being promoted in the ASEAN countries as identified above are resource-based, and in some instances even those of the latter type would not be linked to domestic primary production (for example, alumina for the planned aluminium smelter plant of the Philippines is to be imported). In such cases it is far from clear that the ASEAN countries will have comparative advantage, considering the large capital requirements and highly capital-intensive nature of those industries. Viable levels of production are bound to be very high relative to the domestic market in view of scale economies characterizing heavy industries, in which case a large amount would have to be exported. For

institutional and economic reasons, marketing of such products abroad may prove to be a difficult problem.

Having to promote basic industries for the sole purpose of ensuring a balanced development of the manufacturing sector would seem an economically untenable position for ASEAN countries, given their high degree of openness. The setting up of uneconomic large-scale projects producing internationally uncompetitive intermediate products would effectively hinder rather than stimulate production in downstream industries. It would use disproportionate amounts of scarce investment resources and result in less labour absorption. Over-enthusiasm with large-scale, capital- and energy-intensive industrial projects can only lead to increased inefficiency in the manufacturing sector, higher prices for industrial goods and reduced international competitiveness. It could also make politically more difficult the full implementation of trade liberalization plans drawn up as part of ongoing structural adjustment programmes in some ASEAN countries.

Concluding Remarks

In the last two decades the external market provided an opportunity for the ASEAN countries to accelerate their industrial development. While the dramatic development in the world economy in the 1970s has necessitated structural adjustments to be made in the ASEAN economies, the importance of trade (particularly, in manufactured products) is not expected to diminish; indeed, as indicated above, it will become even more vital to their industrial development prospects.

Three classes of ASEAN countries' manufactured products will need increased access to foreign markets for the rapid economic growth of these countries to be sustained through the 1980s. These are labour-intensive manufactures, industrial products of higher skill and technology

intensity, and processed primary products.

The abundance of unskilled, low-wage labour in the Philippines, Thailand, and especially Indonesia make these countries' prospects for further expansion of labour-intensive manufactured exports relatively bright, provided the world trading system remains basically open. In the case of Indonesia, continuing improvements in the organizational capacity for internationally competitive production would also be necessary. For the Philippines and Thailand it seems likely that rising wages will require adjustment into more diversified and skill-intensive export products before long.

Malaysia and Singapore are at this time no longer labour-abundant; recent government emphasis in the promotion of industries involving higher labour skills and technology will likely (for Singapore, has already begun to) be translated into larger exports of sophisticated industrial products. Here access not only to foreign markets but also to IC technologies would be required. As noted above, the Singaporean Government has been particularly active in establishing facilities to upgrade the technical skills of industrial workers, promoting the development of a computer-software industry and attracting foreign investments in the production of high technology products.

Recent developments in microelectronic technology, based on the now famous silicon chip, would seem to cast a shadow on the future viability of an industrialization strategy relying heavily on labour-intensive manufactured exports. The flexibility and low cost of chip technology allows computer intelligence to control specific manufacturing processes by installing microprocessors in machines — to the extent that traditionally labour-intensive processes have begun to be challenged on economic grounds by computerized assembly facilities. The increasing use, in the industrialized countries, of microelectronics in the manufacture of garments, textiles, and standardized electronic products, which are

currently the three leading labour-intensive manufactured exports of developing countries, represents a threat to the latter countries' comparative advantage (based on cheap labour) in those industries (Norman 1981). If successful in altering the competitive status of many labour-intensive export industries in developing countries, the new technology will induce changes in world production and trade patterns. This would perhaps imply that the comparative advantage in resource-based industries will be enhanced for the four resource-rich ASEAN countries.

Indeed the prospects of ASEAN exports of processed primary products are very good, at least from the supply side. Industrial policy in Indonesia, Malaysia, the Philippines, and Thailand has recently been promoting, perhaps even over-promoting (on grounds indicated above), the expansion of domestic processing capacity aimed at raising the value added of primary product exports. Apart from the other difficulties mentioned earlier, success in the development of such industries will depend on the willingness of foreign markets to accommodate the shift into processed exports by producers of primary products. The elimination of differential tariffs in IC markets would help, as well as the phasing out of import-competing domestic indus-

tries in the intermediate stages of processing. This is an area where consultations in the planning of related industrial projects would be essential in order to avoid conflicts among the countries concerned — not only between ASEAN and countries outside the region but also, as made painfully clear in the earlier discussion, among the ASEAN countries themselves.

Beyond the broad categories of industries distinguished above, it does not seem appropriate to discuss what specific production activities could be efficiently established in each of the ASEAN countries, considering that the identification of future comparative advantage at such level is fraught with uncertainties. This is better left to the individual decisions of private firms, given the private enterprise character of the ASEAN economies, and judicious government intervention (where externalities drive a wedge between private profitability and social desirability).

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Notes

1. According to Pang (1982), Singapore, whose unemployment rate was over 10 per cent in the early 1960s, reached full employment in the early seventies.
2. This was interrupted briefly by the world recession in the mid-1970s but, as will be discussed below, intensified after 1979.
3. The share of these sectors in Singapore's GDP increased from 36.8 per cent in 1970 to 45.5 per cent in 1980.
4. In contrast to the impressive growth (averaging 12.6 per cent annually) during 1949–57, manufacturing value added increased at an average rate of only 5.7 per cent in real terms from 1957 to 1969.
5. The floating of the Philippine peso resulted in an exchange rate change from 3.9 to 6.4 pesos per U.S. dollar within the year. Exporters of traditional export products, however, were required to convert 80 per cent of their foreign exchange earnings at the old

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- rate; this dual exchange rate arrangement was later replaced by taxes on traditional exports at rates ranging from 4 to 10 per cent *ad valorem*.
6. According to Glassburner (1971), real per capita income in Indonesia did not improve from 1959 to 1967.
 7. Cf. Table 8.4 in Anwar (1980, p. 214).
 8. About 23 per cent went to the EEC countries, another 23 per cent to the United States, and 10 per cent to Japan.
 9. Based on Garnaut-Anderson's (1980, p. 411) listing of 3-digit SITC manufacturing industries by labour intensity of production.
 10. Based on data from various issues of the *World Development Report*.
 11. These are: food processing and feed milling, textiles and garments, leather products, pulp and paper, automotives, cement, ceramics and glass appliances, electrical and electronic appliances, furniture, iron and steel, machinery and capital equipment, motor-cycles and bicycles, and wood and wood products.
 12. Quoted from the *Five-Year Philippine Development Plan, 1978-1982* (updated for 1981 and 1982).
 13. *Far Eastern Economic Review*, 11-17 June 1982, p. 110.
 14. This has not been popularly received, critics claiming that it could lead to serious distortions in the government choice of business partners and to an artificial overpricing of foreign imports such as capital equipment. It is recognized, however, that the benefit of the counter-purchase policy is limited since the value of exports linked to state-sponsored contracts is less than 3 per cent of Indonesia's total trade.
 15. As in the following quotation: "Only then can we take our legitimate place in the ranks of the newly-industrialized countries and thus fulfil the aspirations of developing nations within the new economic order as promulgated by the United Nations" (Hon 1982).

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