

Patterns of Trade and Industrialization in ASEAN*

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I Introduction

One of the most significant developments in the post-colonial era of Southeast Asia has been the remarkable growth of manufactured exports from the ASEAN countries. Until the recent recession, all five countries enjoyed a decade and a half of sustained economic growth. Even the Philippines—the laggard among the five—performed better than the average for the World Bank's grouping of "Lower middle income developing economies" for much of this period. As would be expected, the share of manufacturing in each country's GDP rose (except for Indonesia in current price terms during the height of the oil boom). It is the

combination of rapidly expanding manufacturing industries and the quite sudden adoption of more outward-looking industrial policies which makes the two decades after 1965 a particularly interesting period of study.

The pace of industrial transformation in ASEAN is probably matched only by the Northeast Asian NICs in the 1960s and 1970s, and Japan before them. One quarter of a century ago, the manufacturing sector in ASEAN was small and inward-looking, and consisted almost entirely of resource-processing and simple consumer goods industries. At that time Singapore was still predominantly a service and entrepot trade economy. Indonesian industry, disrupted by a decade of war and revolution, and then another decade of post-colonial instability, had changed little from its first period of growth in the 1930s. Both Thailand and Malaysia were still essentially agrarian economies, although in the latter plantations-based processing was of some importance. Only in the Philippines—then one of the most prosperous nations in East and Southeast Asia—had there been substantial progress; but as the following decade revealed, it was progress at the price of an inefficient manufacturing industry fostered by indiscriminate import substitution.

* Some of the issues in this paper are dealt with more fully in Ariff and Hill [1985] and in an unpublished report prepared by the author for the United Nations Industrial Development Organization. I am most grateful for the assistance of Ms Caroline Lee of the International Economic Data Bank, Australian National University for preparation of the material on which the tables are based. Throughout the paper, ASEAN refers to the five original member countries—Indonesia, Malaysia, the Philippines, Singapore and Thailand—and excludes Brunei.

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From the late 1960s, ASEAN's industrial profile began to change sharply. In the space of less than a decade all except Indonesia emerged as quite significant exporters of manufactures in a few specialized industries. The conventional wisdom that countries had to experience a prolonged period of "learning by doing" through import replacement hardly seemed relevant. The four more outward-looking countries began to penetrate international markets in industries which were still "infants" in their domestic economies. It would have seemed unthinkable, to an observer in the 1960s, that within the space of one generation manufactured exports would exceed or very nearly match the combined aggregate of agricultural and metals and minerals exports in the Philippines, Malaysia, and Thailand. But, admittedly aided by recent sharp declines in international commodity prices, this has been broadly the case.

What factors explain such a remarkable transformation? This is not the place to address this question,¹⁾ but it is clear that three general sets of factors have contributed. These are:

(i) The general domestic environment—

1) Several studies of industrialization in ASEAN have touched on this question, either directly or indirectly. See, for example, Fong [1985], Hoffmann and Tan [1980] and Spinanger [1986] on Malaysia; Bautista, Power and Associates [1979] and Yoshihara [1985] on the Philippines; and McCawley [1979] on Indonesia. McCawley [forthcoming] provides a general assessment of the impact of licensing and regulatory regimes in ASEAN, while Findlay and Garnaut [1986] examine industrial protection.

—including economic and political stability, investment in social and physical infrastructure, an orthodox and predictable macroeconomic environment.

- (ii) Specific industrial measures—including fiscal incentives, export processing zones, removal of anti-export biases in the trade regime.
- (iii) International factors—including a broadly accommodating international environment (until recently), the neighbouring Japanese economic powerhouse and its increasing comparative disadvantage in areas of export interest to ASEAN, the demonstration effects of the Asian NICs, the internationalization of technology and capital markets, and the emergence of international subcontracting networks both in a marketing and production sense.

An important feature of the new outward orientation has been the selective nature of ASEAN's drive for manufactured exports. The major items have corresponded to production activities in which the ASEAN countries possess a potential or actual comparative advantage, since the greatest proportion have been resource-based and labour-intensive manufactures. This is hardly surprising: while the structure of protection, other forms of government intervention, and the presence of "home goods" industries has produced a more diversified domestic industrial base (including many inefficient industries), export patterns provide a much clearer picture of revealed com-

parative advantage because the scope for government intervention is necessarily more restricted.

II An Overview of ASEAN Industrialization

Industrialization in ASEAN is of interest not only because of the recent record, but also because of the diversity of policies, stages of development, and resource endowments. Indeed the only common characteristics would seem to be geographic proximity, membership of an increasingly influential political association, and a commitment—of varying degrees of intensity—to look outward. These differences are particularly marked in the case of the ASEAN “outliers,” Indonesia and Singapore.

This diversity is illustrated in Table 1, in which, for comparative purposes, India, Korea and the lower middle income group are also included. Indonesia and Singapore differ greatly from their ASEAN neighbours and the other two countries. Manufacturing grew rapidly in both countries, until the recent slump, but here the similarity ends. Although possessing the largest industrial sector in ASEAN, Indonesia is by far the least industrially developed of the five. Its relative industrialization is low, both as a proportion of GDP (the ratio being lower even than India) and of agricultural output. Manufacturing value added per capita is very small—less than half that of the Philippines and Thailand, and less than one-twentieth that of Singapore.

Manufactured exports are even smaller still, although they have risen substantially in the last five years. Per capita manufactured exports in 1984 were less than one-quarter those of Thailand, the next lowest in ASEAN.

By virtually any indicator, Singapore is by far the most industrially advanced nation in ASEAN. The other three countries assume intermediate positions between these two extremes. The Philippines has a quite large and sophisticated industrial sector. The early push for industrialization, strong anti-agricultural biases in its structure of protection, and the poorest resource endowment among the four large countries of ASEAN are the reasons why, after Singapore, it was the first ASEAN country to cross the threshold beyond which manufacturing is larger than agriculture. For these reasons, and because of the early development of manufactured export “enclaves,” the share of manufactures in merchandise exports is one of the highest in ASEAN. Thailand—the economic success story of ASEAN in the 1980s—has been very much a case of the successful “late-comer.” From a small industrial base in the 1960s, manufacturing grew the most rapidly in the region from 1973 to 1984, apart from the special case of oil-induced industrialization in Indonesia. Its industrial characteristics resemble those of the Philippines in many respects, but the similarity is a purely transitory one given its (Thailand’s) superior performance since the mid 1970s. Malaysia, too, industrialized very rapidly around its agro-

Table 1 Comparative Indicators of Industrialization, ASEAN and Selected Asian Developing Countries

| Region/ Country | GNP per Capita, \$ 1984 | Manufacturing Growth, Annual Average % | | Manufacturing Output 1984, as % of | | Manufacturing Output | | Manufactures, \$ 1983, as % of | | Manufactured Exports, per Capita, \$ 1984 |
|--------------------|-------------------------------|---|-----------|---------------------------------------|-------------|----------------------|-----------------------|-----------------------------------|---------|--|
| | | 1965-1973 | 1973-1984 | GDP | Agriculture | \$ 1984 millions | \$ 1984 per Capita | Merchandise | | |
| | | | | | | | | Exports | Imports | |
| ASEAN | | | | | | | | | | |
| Indonesia | 540 | 9.0 | 14.9 | 13 | 50 | 11,155 | 70 | 8 | 63 | 11 |
| Malaysia | 1,980 | n.a. | 8.7 | 19 | 90 | 5,756 | 376 | 22 | 72 | 236 |
| Philippines | 660 | 8.5 | 4.3 | 25 | 100 | 8,811 | 165 | 50 | 60 | 50 |
| Singapore | 7,260 | 19.5 | 7.6 | 25 | 2,500 | 3,994 | 1,597 | 57 | 56 | 5,485 |
| Thailand | 860 | 11.4 | 10.0 | 19 | 83 | 8,170 | 163 | 32 | 64 | 47 |
| Other Asia | | | | | | | | | | |
| India | 260 | 4.0 | 5.9 | 15 | 43 | 29,219 | 39 | 52 | 49 | 7 |
| Korea | 2,110 | 21.1 | 11.5 | 28 | 200 | 23,691 | 591 | 91 | 51 | 664 |
| Lower Middle | | | | | | | | | | |
| Income Countries | 740 | 8.5 | 5.9 | 17 | 77 | n.a. | n.a. | 21 | 63 | n.a. |

Note: Some data refer to a year earlier than that mentioned. Per capita manufactured exports were derived from 1984 total exports and population, and 1983 shares of manufactures in total exports.

Source: World Bank, *World Development Report 1986*, Washington.

processing industries and through the vigorous promotion of export processing zones, until the unfortunate coincidence of a premature push into heavy industry and a sudden decline in commodity prices brought industrial growth to a halt.

The more outward orientation of ASEAN industry over the last two decades is illustrated clearly in Table 2. With the notable exception of Singapore, manufactures comprised less than five per cent of all merchandise exports in the early 1960s. The share rose substantially in the decade 1962–1972, but the really large increases were generally recorded in the following decade. More recent data for Indonesia and Malaysia, not yet incorporated in the data bank, show quite sharp increases in the last two years. Consequently, while the share of manufactures in ASEAN merchandise exports is still below the

global share, export expansion has become a substantial source of these countries' industrial expansion since the early 1970s (or 1980s in the case of Indonesia).

III The ASEAN Performance in Perspective

How does the ASEAN countries' performance compare with that of developing countries as a whole, and what have been the major markets in the export drive? To answer these questions, it is useful to refer briefly to the theory of comparative advantage, and to develop a classification of commodities according to factor intensities (used in their production) which is consistent with that theory.

In the standard two-factor Heckscher-Ohlin-Samuelson model, capital-abundant and labour-scarce economies would specialize in the export of products whose production functions dictated capital-intensive technologies, and the reverse would apply for labour-rich, capital-scarce developing countries. Apart from extensions to the theory—the product cycle and so on—the original formulation requires modification in several respects. One is that capital should be divided into two categories, physical and human. The former is usually an internationally mobile factor, and is therefore not a major determinant of the location of production activities. A second modification is the inclusion of natural resources as a factor input. These are obviously important in the case of agricultural and

Table 2 Manufactures^{a)} in ASEAN Merchandise Exports
(% of total merchandise exports)

| | 1962 | 1972 | 1982 | Latest ^{b)} Year |
|-------------|------|------|------|------------------------------|
| Indonesia | 0.3 | 1.7 | 3.6 | 10.1 |
| Malaysia | 4.6 | 10.2 | 22.8 | 24.7 |
| Philippines | 4.7 | 9.2 | 49.6 | 50.3 |
| Singapore | 26.5 | 40.9 | 48.5 | 51.2 |
| Thailand | 2.1 | 10.5 | 26.3 | 33.3 |
| ASEAN | 10.0 | 16.8 | 26.8 | 29.3 |
| World | 54.3 | 63.9 | 63.6 | 67.6 |

a) Manufactures refer to SITC 5–8 less SITC 68, plus 931 for the Philippines.

b) In this and following tables "latest year" refers to 1983 for Malaysia, Philippines, ASEAN and World; 1984 for Indonesia and Thailand; and 1985 for Singapore.

Source: International Economic Data Bank, Australian National University, based on United Nations trade statistics.

mining activities; they are also of some relevance in determining the location of down-stream processing activities.

It is possible to identify a wide range of factor intensity groupings for the purposes of empirical investigation of multilateral commodity flow. For our purposes, a simple classification will be sufficient, as follows:

- (i) unskilled labour-intensive products;
- (ii) high value added activities, whether human capital or technology intensive; and
- (iii) resource (agricultural and mineral) intensive industries.

Several classifications have been developed, all essentially based on the principle first systematically expounded by Lary [1968] that value added per employee is the most suitable guide for (non-resource) factor intensities. We adopt here the classification used by Krause [1982], who followed the Lary schema (including also R & D intensive activities in group (ii)), after separately identifying resource-intensive activities.

The ASEAN countries have become increasingly prominent exporters of manufactures in the third world. Between 1972 and 1983 their manufactured exports rose approximately 15-fold in nominal terms, and their share of all developing country exports more than doubled (Table 3). In 1972 Singapore accounted for the bulk of ASEAN manufactured exports (over two-thirds of the total); no other country's share exceeded one per cent. By 1983 Singapore's share had fallen to a little over one-half, and all countries'

shares exceeded one per cent.

The increase in ASEAN's share of developing country exports has been even more pronounced in the case of resource-intensive and labour-intensive manufactures. For both groups, the shares rose approximately three-fold over the period 1972-1983. As would be expected, the ASEAN share for resource-intensive manufactures is the higher of the two. With the obvious exception of Singapore, the resource endowment in Southeast Asia is superior to that of the outward-looking Northeast Asian economies. The ASEAN share rose sharply as competence in resource-processing technologies developed, hastened in some cases by outright prohibitions on unprocessed primary product exports. For example, the Philippines, and later Indonesia, imposed bans on the export of logs. In recent years Indonesia has emerged as the largest exporter of resource-intensive manufactures; these exports consist mainly of plywood, which now accounts for over one-third of that country's manufactured exports. Clearly, Indonesia previously possessed a "latent" comparative advantage in the industry. Government intervention hastened the realization of this advantage, albeit in a clumsy and rather expensive manner.

ASEAN's performance with regard to labour-intensive manufactures is perhaps even more impressive. These are products which have been emphasized in the export drive of countries as diverse as those in South Asia, Latin America and the Caribbean, not to mention the spectacular

Table 3 Exports of Manufactures by Developing Countries
(\$ million, or % of all developing countries)

| | 1972 | 1982 | 1983 |
|---|--------------|---------------|---------------|
| (1) <i>All Manufactures</i> | | | |
| Developing Countries | 18,822 (100) | 115,587 (100) | 125,713 (100) |
| Asian Developing Countries | 9,462 (50.3) | 71,418 (61.8) | 83,669 (66.6) |
| ASEAN | 1,303 (6.9) | 17,910 (15.5) | 20,017 (15.9) |
| Indonesia | 31 (0.2) | 808 (0.7) | 1,380 (1.1) |
| Malaysia | 175 (0.9) | 2,748 (2.4) | 3,487 (2.8) |
| Philippines | 95 (0.5) | 2,484 (2.1) | 2,503 (2.0) |
| Singapore | 893 (4.7) | 10,081 (8.7) | 10,717 (8.5) |
| Thailand | 109 (0.6) | 1,789 (1.5) | 1,931 (1.5) |
| (2) <i>Resource-Intensive Manufactures^{a)}</i> | | | |
| Developing Countries | 3,084 (100) | 9,609 (100) | 10,031 (100) |
| Asian Developing Countries | 1,013 (32.9) | 3,396 (35.3) | 5,424 (54.1) |
| ASEAN | 208 (6.7) | 1,400 (14.6) | 1,957 (19.5) |
| Indonesia | 2 (0.1) | 354 (3.7) | 770 (7.7) |
| Malaysia | 64 (2.1) | 209 (2.2) | 249 (2.5) |
| Philippines | 52 (1.7) | 184 (1.9) | 205 (2.0) |
| Singapore | 49 (1.6) | 351 (3.7) | 360 (3.6) |
| Thailand | 41 (1.3) | 301 (3.1) | 372 (3.7) |
| (3) <i>Labour-Intensive Manufactures^{b)}</i> | | | |
| Developing Countries | 9,336 (100) | 55,895 (100) | 61,875 (100) |
| Asian Developing Countries | 6,126 (65.6) | 41,848 (74.9) | 47,766 (77.2) |
| ASEAN | 464 (5.0) | 8,705 (15.6) | 9,872 (16.0) |
| Indonesia | 7 (0.1) | 303 (0.5) | 428 (0.7) |
| Malaysia | 45 (0.5) | 1,821 (3.3) | 2,261 (3.7) |
| Philippines | 29 (0.3) | 2,071 (3.7) | 2,095 (3.4) |
| Singapore | 330 (3.5) | 3,266 (5.8) | 3,810 (6.2) |
| Thailand | 53 (0.6) | 1,245 (2.2) | 1,276 (2.1) |

a) Defined as SITC 61, 63, 661-663, 667, 671.

b) Defined as SITC 54, 65, 664-666, 695, 696, 697, 722 (Thailand only), 729, 735, 81, 82, 83, 84, 85, 893, 894, 895, 899, 931 (Philippines only), 951.

export successes of Northeast Asia. Nevertheless, the share from ASEAN has expanded sharply, with the Philippines, Malaysia and Singapore all emerging as significant exporters by 1983. With the recent very rapid rise in these exports from Indonesia and Thailand—country data suggest the totals exceeded \$2 billion in both countries by 1985—

ASEAN's share of these products in all developing countries would now exceed 20 per cent.

Although the ASEAN countries have exported to a diverse range of countries, the United States has been crucial to the region's export drive. This is indicated in Table 4, where the major markets are identified as the United States, Japan, the

Table 4 ASEAN Exports of Manufactures by Destination
(\$ million, latest year)

| | | Export Market | | | | | |
|-------------|-------|---------------|------------|-------|-------|-------|--------|
| | | ASEAN | Asian NICs | EEC | Japan | USA | World |
| Indonesia | Total | 560 | 251 | 194 | 280 | 591 | 2,201 |
| | ULI | 206 | 24 | 80 | 28 | 239 | 689 |
| | RI | 142 | 196 | 89 | 62 | 191 | 833 |
| Malaysia | Total | 730 | 238 | 640 | 208 | 1,399 | 3,487 |
| | ULI | 328 | 142 | 376 | 129 | 1,159 | 2,262 |
| | RI | 101 | 22 | 51 | 28 | 25 | 249 |
| Philippines | Total | 302 | 170 | 413 | 265 | 1,138 | 2,503 |
| | ULI | 269 | 114 | 342 | 172 | 1,025 | 2,095 |
| | RI | 12 | 20 | 51 | 33 | 65 | 205 |
| Singapore | Total | 2,514 | 872 | 1,434 | 464 | 3,793 | 11,683 |
| | ULI | 736 | 278 | 410 | 144 | 1,081 | 3,388 |
| | RI | 61 | 25 | 59 | 7 | 10 | 305 |
| Thailand | Total | 357 | 178 | 480 | 166 | 704 | 2,427 |
| | ULI | 267 | 76 | 352 | 58 | 554 | 1,654 |
| | RI | 16 | 64 | 92 | 51 | 88 | 388 |
| ASEAN | Total | 4,445 | 1,380 | 2,902 | 1,075 | 6,549 | 20,017 |
| | ULI | 1,761 | 640 | 1,510 | 513 | 3,875 | 9,872 |
| | RI | 374 | 225 | 397 | 195 | 346 | 1,957 |

Asian NICs refer to Hong Kong, Korea and Taiwan. ULI and RI refer to unskilled labour-intensive and resource-intensive respectively.

EEC, the Northeast Asian NICs, and other ASEAN countries, for all manufactures and the resource and labour-intensive group. Note that the five country totals do not sum to the ASEAN total because the latest reporting year varies from 1983 to 1985 in each case.

The United States has been the largest export market, accounting for about one-third of the total in 1983. It has also been the largest for each country, both for all manufactures and the labour-intensive group. In fact North American imports have exceeded the *combined* total of Japan and the EEC. Continuing access to the United States market is therefore critical

to the sustainability of outward-looking policies in ASEAN. As would be expected, the country with the strongest trade orientation towards the United States from within the region is the Philippines, reflecting historically strong ties.

By contrast, the Japanese market for ASEAN manufactured exports is surprisingly small, its imports from ASEAN being less than one-sixth those of the United States in 1983. Japanese investments in ASEAN manufacturing appear to have been less export-oriented than those from the United States [Hill and Johns 1985]. Part of the reason for the lower share is, of course, that Japanese

imports in total are only about one-third of those of the United States. But, even allowing for the difference, the Japanese share is still relatively smaller, a puzzling result also in view of the positive effects of proximity on ASEAN-Japan trade. The explanation is probably a combination of three factors: Japan's imports from ASEAN are heavily concentrated on minerals and other extractive industries—it also has one of the highest shares of resource-intensive manufactures among major export markets; a more important source for its labour-intensive manufacturing imports has historically been the Northeast Asian developing countries; and Japan has “lost” its comparative advantage in labour-intensive industries more recently than the United States, with consequences for the pattern of import demand.

Among the other major markets, the large share of ASEAN is of interest. In 1983, intra-regional trade accounted for about 22 per cent of the total, similar to the share for all merchandise trade [Rieger 1985]. The share of intra-regional markets in the trade of labour-intensive manufactures is lower, reflecting the fact that complementarity with the industrialized OECD group is greatest for these products. As with all merchandise transactions, trade in manufactures is heavily concentrated on bilateral flows between Singapore, and Malaysia and Indonesia. Some of the exports from the latter two countries to Singapore would be purchased by tourists or exported to other markets, although “re-exports” are

formally excluded from our data.

IV Comparative Advantage at Work

The importance of comparative advantage factors—essentially resource endowments in the ASEAN countries relative to their major trading partners—can be illustrated with reference to several standard tools employed in the analysis of trade flows. The two chosen here are:

- (i) Net trade balance ratio, defined as:

$$\frac{\sum(X_{ij} - M_{ij})}{\sum(X_{ij} + M_{ij})}$$

where X and M refer to exports and imports respectively,

i refers to country, and

j refers to commodity.

Thus X_{ij} refers to country i's exports of commodity j. The ratio varies from -1 to +1.

- (ii) Revealed comparative index, commonly associated with Balassa [1965] and defined as:

$$\frac{X_{ij}}{X_i} \bigg/ \frac{X_{wj}}{X_w}$$

where X, i and j are as for (i), and w refers to world. Thus X_{wj} refers to world exports of commodity j. The index has a minimum value of 0 and no upper bounds, but values in excess of 5 are uncommon.

For comparative purposes it will be useful to include skill and technology-intensive manufactures, along with the other two classifications, and all manufactures.

Of the two measures, the net trade

balance ratio gives a more complete picture of the changing pattern of trade in manufactures. But it is less useful as an indicator of shifts in comparative advantage because the ratio, on the import side, incorporates also the effects of government intervention such as import barriers. For Indonesia and the Philippines, in particular, this is an important

limitation. To detect these shifts more accurately, the revealed comparative advantage (RCA) index is preferred.

ASEAN's outward orientation, and its focus on products which lie within its comparative advantage, are clearly illustrated in the net trade ratios (Table 5). The ratio for manufactures as a whole remains negative, indicating ASEAN

Table 5 Trade Balance Ratios in ASEAN Manufactured Exports

| | 1962 | 1972 | 1982 | Latest Year |
|---|-------|-------|-------|-------------|
| (1) <i>All Manufactures</i> | | | | |
| Indonesia | n.a. | -0.95 | -0.86 | -0.62 |
| Malaysia | -0.82 | -0.70 | -0.51 | -0.45 |
| Philippines | -0.87 | -0.81 | -0.33 | -0.31 |
| Singapore | -0.22 | -0.39 | -0.20 | -0.11 |
| Thailand | -0.96 | -0.81 | -0.43 | -0.44 |
| ASEAN | -0.64 | -0.66 | -0.42 | -0.39 |
| (2) <i>Resource-Intensive Manufactures</i> | | | | |
| Indonesia | n.a. | -0.89 | -0.37 | 0.75 |
| Malaysia | -0.67 | 0.56 | 0.11 | 0.13 |
| Philippines | 0.57 | 0.63 | 0.61 | 0.68 |
| Singapore | -0.02 | -0.10 | -0.19 | -0.18 |
| Thailand | 0.12 | 0.49 | 0.46 | 0.43 |
| ASEAN | -0.04 | 0.20 | 0.17 | 0.25 |
| (3) <i>Labour-Intensive Manufactures</i> | | | | |
| Indonesia | n.a. | -0.95 | -0.61 | -0.29 |
| Malaysia | -0.79 | -0.61 | -0.15 | -0.12 |
| Philippines | -0.84 | -0.62 | 0.13 | 0.09 |
| Singapore | -0.27 | -0.33 | -0.17 | -0.16 |
| Thailand | -0.96 | -0.62 | 0.11 | 0.10 |
| ASEAN | -0.61 | -0.52 | -0.11 | -0.09 |
| (4) <i>Skill and Technology-Intensive Manufactures^{a)}</i> | | | | |
| Indonesia | n.a. | -0.96 | -0.97 | -0.84 |
| Malaysia | -0.84 | -0.85 | -0.78 | -0.73 |
| Philippines | -0.99 | -0.96 | -0.87 | -0.87 |
| Singapore | -0.21 | -0.43 | -0.21 | -0.08 |
| Thailand | -0.99 | -0.96 | -0.86 | -0.85 |
| ASEAN | -0.69 | -0.76 | -0.61 | -0.60 |

a) Defined as remaining items in SITC 5-8 less SITC 68, excluding labour-intensive and resource-intensive items defined above.

remains a net importer of these goods. It is also negative for each country, although Singapore is approaching the status of net exporter. The Philippines has the next lowest ratio, reflecting its early push for industry, its successful (though "enclave" based) export drive, and its substantial import barriers.

Most of the decline in the ratio occurred after 1972. Indeed there was remarkably little change in the decade 1962-1972 despite the first tentative outward push. This can be explained by the fact that exports were still relatively small by 1972, and that in the initial export drive many export-oriented industries were highly import-intensive. Thereafter the changes were rapid: the ratio more than halved in the Philippines and Singapore, and fell by over 50 per cent in the other three countries in the decade or more after 1972.

Of particular interest are the differences between countries and over time. The importance of comparative advantage factors in explaining the growth of manufactures is revealed clearly in the variations among the three principal factor intensity groupings, and in each country's record.

For the resource-intensive category, the ratio has been positive for most countries since the 1960s. The sharpest change occurred in Indonesia, where its strong resource base in the Outer Islands, supplemented by government export directives and growing processing competence, produced an amazing change in less than a decade. The ratios for the other

three big countries have been large and positive during the 1970s, with the partial exception of Malaysia. The role of Singapore requires some elaboration. Although possessing virtually no natural resources, the ratio was in earlier years close to zero because Singapore imported substantial quantities of unprocessed primary products for processing and re-export. As Singapore's industries shift out of these processing activities, and neighbouring countries aim to undertake more processing domestically, the ratio is likely to become increasingly negative.

The most remarkable changes have occurred in labour-intensive manufactures. All countries except Singapore were large net importers of these products in 1962, a situation not greatly different a decade later. Thereafter followed an extremely rapid transformation. The Philippines and Thailand became net exporters within a decade. The ratio fell sharply in Malaysia but remained negative, perhaps because highly import-intensive electronics were the major item in that country's export drive. Even in Indonesia, the most inward-looking economy, the ratio has fallen markedly in recent years.

Quite the opposite picture emerges in the case of higher value added products. The region remains a substantial net importer of these products, and the ratio has not changed greatly since 1962. In the four large economies the ratio has declined slightly, following the "second round" of import substitution in each. But it is Singapore, the region's most indus-

trially advanced country, where the ratio is the lowest and the decline the greatest since 1972. Apart from a few niches which Singapore aspires to occupy, and subsidised marketing in the other four, there is little prospect of the region becoming a substantial exporter of these products in the near future.

The RCA indices corroborate these changes, illustrating especially the export transformation (Table 6). An index of

unity may be considered a "normal" or "average" benchmark figure. Although the indices have increased steadily, in none of the ASEAN countries do they exceed unity for all manufactures. As the earlier figures suggest, the Philippines and Singapore have progressed further in their export drive, and Indonesia least. Here, also, the importance of resource-intensive and labour-intensive manufactures, and the insignificance of the

Table 6 RCA Indices in ASEAN Manufactured Exports

| | 1962 | 1972 | 1982 | Latest Year |
|--|------|------|------|-------------|
| (1) <i>All Manufactures</i> | | | | |
| Indonesia | 0.01 | 0.03 | 0.06 | 0.14 |
| Malaysia | 0.08 | 0.16 | 0.36 | 0.37 |
| Philippines | 0.09 | 0.14 | 0.78 | 0.75 |
| Singapore | 0.49 | 0.64 | 0.76 | 0.69 |
| Thailand | 0.04 | 0.16 | 0.41 | 0.48 |
| ASEAN | 0.18 | 0.26 | 0.42 | 0.43 |
| (2) <i>Resource-Intensive Manufactures</i> | | | | |
| Indonesia | n.a. | 0.04 | 0.67 | 1.60 |
| Malaysia | 0.17 | 1.26 | 0.73 | 0.68 |
| Philippines | 1.37 | 1.70 | 1.54 | 1.58 |
| Singapore | 0.56 | 0.75 | 0.71 | 0.60 |
| Thailand | 0.45 | 1.31 | 1.86 | 2.23 |
| ASEAN | 0.46 | 0.90 | 0.88 | 1.10 |
| (3) <i>Labour-Intensive Manufactures</i> | | | | |
| Indonesia | 0.01 | 0.02 | 0.09 | 0.19 |
| Malaysia | 0.09 | 0.16 | 1.02 | 1.00 |
| Philippines | 0.07 | 0.18 | 2.79 | 2.62 |
| Singapore | 0.61 | 0.96 | 1.06 | 0.97 |
| Thailand | 0.05 | 0.32 | 1.24 | 1.40 |
| ASEAN | 0.22 | 0.38 | 0.88 | 0.90 |
| (4) <i>Skill and Technology-Intensive Manufactures</i> | | | | |
| Indonesia | n.a. | 0.03 | 0.01 | 0.06 |
| Malaysia | 0.08 | 0.09 | 0.13 | 0.14 |
| Philippines | 0.01 | 0.03 | 0.10 | 0.08 |
| Singapore | 0.43 | 0.53 | 0.68 | 0.62 |
| Thailand | 0.01 | 0.03 | 0.08 | 0.10 |
| ASEAN | 0.15 | 0.18 | 0.25 | 0.25 |

higher value added items, are highlighted. The indices for the resource-intensive group are especially high for Indonesia, the Philippines and Thailand. Similarly, they are high for all countries except Indonesia for labour-intensive manufactures. The transition of Singapore manufacturing, away from its earlier emphasis on labour-intensive and processing activities and towards skill and technology-intensive industries, is also clearly evident.

V Conclusion

The ASEAN economies performed very well until the early 1980s. The adoption of more outward-looking policies played an important role in all countries, except in Indonesia where oil revenue was a crucial factor. It would, of course, be a mistake to ascribe the ASEAN success to a simple adherence to free trade principles. The key factors have been the removal of earlier biases against exports, political and economic stability, government investments in infrastructure, and modest fiscal incentives for export. Conversely, many aspects of government intervention have continued to inhibit the export drive, especially in Indonesia and the Philippines. But, in contrast to the experience in much of Africa, South Asia and Latin America, these measures have not been serious enough to nullify the positive measures.

There is little prospect that the extraordinarily rapid growth in manufactured exports that has occurred since

1970 will continue. The rates were so high partly because they commenced from a very small initial base, and because the growth was probably a "one-off" effect of the fortuitous conjunction of domestic and international factors. Moreover, future growth is likely to be more subdued because the international market for manufactures in the 1980s and 1990s will be less accommodating. On the supply side, Asia's two giants, China and India, are increasingly looking outward, and they are likely to be very competitive for some products. In other countries the pressure to export more is being driven by the need to service large international debts. On the demand side, rising protection in the OECD countries threatens to impede market access, although, with the exception of textiles and clothing, protectionist sentiment has to date manifested itself more in rhetoric than in increased import barriers.

A recognition of these difficulties provides no basis for a return to inward-looking policies in ASEAN, however. International market prospects are not as bleak as is commonly portrayed. In any case, the appropriate response from ASEAN to trade difficulties is to redouble collective efforts in international commercial diplomacy to keep these markets open. There is, moreover, much the ASEAN governments can do, individually, to improve the international competitiveness of their industries. In some cases high effective rates of protection lead to high domestic production costs. Many state enterprises in the region are per-

forming poorly, and restricting the scope for productivity-increasing investments elsewhere in the economy. There are also many instances where the system of government licensing and regulation hinders mobility in product and factor markets and imposes additional costs on domestic firms. The ASEAN governments have adopted a flexible and pragmatic approach to economic difficulties in the past. How they respond to the current challenge will have a major bearing on their performance in the next decade and beyond.

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