

THE EXPORT COMPETITIVENESS OF ASEAN ECONOMIES 1986-95

PETER WILSON AND WONG YIN MEI
National University of Singapore

This paper compares changes in the competitive position of five members of the Association of South East Asian Nations (ASEAN) - Singapore, Thailand, Malaysia, Philippines and Indonesia - exporting to the markets of the USA and Japan between 1986 and 1995. Dynamic shift-share methods are applied to two digit data for five categories of manufactured exports. Our findings underline clearly the challenge posed to Singapore by her ASEAN partners over this period in all product categories except office and data machines. Thailand appears to have been more successful in the earlier period but lost ground in later years to the Philippines and especially to Malaysia. Indonesia, on the other hand, has been relatively unsuccessful so far relative to the ASEAN bloc as a whole except in the lower value-added category of apparel and clothing exports to the US market.

I Introduction

Notwithstanding the recent Asian financial crisis, the last two decades have witnessed substantial growth and structural change in South-East Asia, with the Association of South-East Asian Nations (ASEAN)¹, in particular, emerging as one of the fastest growing regions in the world. ASEAN Real GDP grew at about 6 percent between 1985 and 1995 on an annual average basis, compared to the world average of 2 percent and growth in developed market economies of 3 percent, and ASEAN's share of global merchandise trade reached 6.7 percent by the end of 1995, compared to 3.8 percent in 1985.² Not only have Malaysia and, to a lesser extent, Thailand clearly emerged to challenge the dominant position in manufactured goods exports of the older and more established "four (little) tigers" or "four dragons", or "gang of four" of Taiwan, Korea, Hong Kong and fellow ASEAN member Singapore, but there is every expectation that the relatively less advanced economies of Indonesia and the

¹ Although Brunei joined ASEAN in 1984 there is insufficient data to include her in the shift-share analysis. Vietnam, Laos and Myanmar have also recently been admitted, augmenting the group to 9 members.

² The GDP figures are from Tongzou (1998, p. 16) and the trade share was calculated from the International Monetary Fund Direction of Trade Statistics, 1997.

Philippines will, in turn, challenge Thailand and Malaysia as they move up the ladder of value-added.

The objective of this paper is to examine changes in the competitive position of each of these ASEAN-5 member countries relative to the ASEAN-5 group as a whole, in terms of their exports to the key markets of the USA and Japan between 1985 and 1995. A dynamic version of shift-share analysis is applied to two digit data for five categories of manufactured exports. The particular version of shift-share analysis used here follows the national growth rate methodology of Richardson (1978) and Esteban-Marquillas (1972) and combines it with the dynamic version of Barff and Knight (1988) but focuses on export growth over a period of time rather than employment change.

Our findings underline the challenge posed to Singapore by her ASEAN partners over this period in all product categories except office and data machines. Thailand appears to have been more successful in the earlier period but lost ground in later years to the Philippines and especially to Malaysia. In spite of rapid growth, Indonesia, on the other hand, has been relatively unsuccessful so far relative to the ASEAN-5 bloc as a whole except in the lower value-added category of apparel and clothing exports to the US market.

We begin in II below with some background on the nature of the ASEAN-5 economies and their remarkable economic transformation in the 1980s and 1990s. This is followed in III and IV by a description of the shift-share methodology used to compare changes in their competitive positions over this period, and our empirical findings. We complete the paper with some brief concluding remarks and qualifications to our results.

II The ASEAN-5

Some of the economic characteristics of the ASEAN-5 are summarised in Table I.

Despite differences in economic structure and relative resource endowments between the ASEAN economies, for example, Singapore's small population size and dearth of natural resources compared to Indonesia, all have undergone a period of rapid economic growth and structural change between 1983 and 1995. Real GDP growth averaged between 6.5 percent (Indonesia) and 8.5 percent (Thailand) with the exception of the Philippines whose relatively low figure of 1.7 percent was held down by negative growth in 1984 and 1985. Between 1988 and 1995, however, even she achieved a more respectable annual average of 3.4 percent. The share of manufacturing output in GDP in 1995, as an indicator of the extent of industrialisation achieved by the end of the period, varies from 23 per cent for the Philippines to 33 percent in the case of Malaysia. Although ASEAN is still a major producer of primary products (except Singapore), there has been a significant shift towards higher value-added manufacturing in the last two decades. In terms of the level of economic development as proxied by GNP per capita in 1995 based on World Bank (1997, Table 1) estimates, Singapore is now regarded as a 'high income economy', Malaysia is 'upper middle income', while Thailand and the Philippines are classified as 'lower middle income'³

From the trade perspective, the ASEAN-5 became increasingly exposed to international trade and capital flows from the early 1980s, as measured in Table 1 by the trade to GDP ratio, and cumulative inflows of FDI. Singapore and Malaysia are

³ In terms of the conventional criteria of economic development Singapore's position here is somewhat anomalous. The Singapore government has so far resisted all attempts to re-classify her as an advanced developed country. In 1995 the OECD elevated Korea to developed country status but designated Singapore as 'a more advanced developing country', while the International Monetary Fund in its *World Economic Outlook*, May 1997, p. 4, included her along with Israel, Hong kong, Korea and Taiwan with the group of countries traditionally known as 'industrial countries'.

especially open according to both measures since 1983⁴, whereas FDI has been a more significant indicator of 'openness' for Indonesia. Prior to the 1980s, with the exception of Singapore, the other ASEAN-5 countries had opted to exploit their large domestic markets through import substitution, but since the mid 1980s, they too substantially liberalised their foreign trade regimes and extended a more open arms approach to FDI. The commitment to an ASEAN Free Trade Area (AFTA) in the early 1990s has also accelerated the process of globalisation.

During the 1980s and 1990s the ASEAN-5 economies have also become more interdependent in trade and capital flows as a group and increasingly compete in similar goods and markets, although this has been much more pronounced for bilateral trade between Singapore and Malaysia than between the other members of ASEAN. As the data in Table 2 implies, despite some diversification from the US and Japanese markets by 1995, particularly for Indonesia, and a switch in Malaysia from Japan to the USA, overall exports to these two destinations by the ASEAN-5 as a bloc still accounted for a third of their exports. ASEAN-5 countries were also increasingly competing in a similar range of manufactured goods to these markets as can be seen from Table 3, which shows their exports of manufactured goods to the US and Japanese markets at the SITC two digit level. Although there are variations across the individual members, a substantial proportion of their exports to these markets are accounted for by organic chemicals, office and data processing machines, telecommunications/sound equipment, electrical machinery, apparel and clothing and miscellaneous manufactures. The only category to have seen a decline over the period is apparel and clothing with respect to the US market.

⁴ The very high trade to GDP ratios for Malaysia and Singapore somewhat exaggerate the contribution of trade to GDP since the published gross export figures include a substantial quantity of entrepot re-exports and intermediate imports. Some economists have calculated a smaller value-added or 'net'

III Shift Share Analysis

Shift-share analysis has been used extensively in regional analysis to analyse differences in regional and national growth rates in variables such as employment and productivity⁵. Although a relatively simple descriptive technique it has proved to be useful for isolating trends in regional performance and for supplying data to policymakers to interpret changes in the industrial structure of their economies. Recent examples of its use in policy analysis include the Monetary Authority of Singapore (1998) and Khalifah (1996). The former uses the technique to identify those markets which are of growing importance to Singapore between 1991 and 1996, while the latter carries out a similar procedure for Malaysia between 1991 and 1993. The role of shift-share in the present study is to compare changes in a competing ASEAN member's exports at the SITC two-digit level to the USA and Japan with the corresponding exports of a reference group, in this case the ASEAN-5 as a whole. Any difference between the performance of the country concerned in a given commodity group and destination and that part of the total change in exports which might be ascribed to the rate of export growth of the reference group as a whole - the *share effect*- is referred to as the *export differential or shift effect* and is measured in absolute dollar terms. A positive value implies an improvement in competitiveness relative to the reference group and a negative value constitutes a deterioration in competitiveness. The export differential is in turn accounted for by three additive factors: the *industry mix effect*, the *competitive effect*, and the *allocative effect*. For

export series for Singapore using the input-output tables to subtract the total and indirect import content of total exports of goods and services. See, for example, Peebles and Wilson (1996, p. 162).

⁵ For reviews of the basic methodology of shift-share, see Richardson (1978), Esteban-Marquillas (1972), Fothergill and Gudgin (1979), and more recently, Haynes and Machunda (1987) and Hayward and Erickson (1995).

brevity the full details of the shift-share methodology used here and the data sources are relegated to Appendix I.

Most studies using shift-share methods are comparative static in that they only consider changes in employment or exports between the beginning and the terminal years of the time period considered. In the context of export changes this was true of both Herschede (1991) and DBSBank (1992). The former examined the relative export performance of ASEAN, China and the East Asian newly industrialising countries between 1982 and 1987; while the latter focused more specifically on the export competitiveness of Singapore compared to the other Dynamic Asian Economies in the US and Japanese markets between 1986 and 1990.

The static approach, however, is problematic because it cannot take into account continuous changes in the industry mix component and changes in the size of total exports in the country concerned. The usual procedure is to use the industry mix at the start of the period to calculate the industry mix effect over the whole period, or to adopt an arbitrary compromise by averaging over the period in some way. Wilson and Goh (1998), for example, in their analysis of the dynamic Asian economies exporting to the USA, Japan and the Economic Union between 1986 and 1993, use two year averages at the beginning and end of the period. This can still be misleading if there are significant changes in industrial structure over the period, as one would expect in the present case for the ASEAN-5. We consider an example of this in IV below.

Failure to take into account changes in the size of a country's total exports can also lead to problems if these exports grow faster or slower than those of the reference group. If they grow faster then the comparative static approach will assign too little of the export growth to the 'share effect' and vice versa. The advantages of the dynamic approach is that it takes into account these continuous changes in the industry mix

component and changes in the size of total exports in the country concerned. Only by applying an annual group growth rate to a country's exports at the beginning of the year can the share effect be accurately measured.

IV Empirical Results

One of the advantages of using dynamic, as opposed to static, shift-share analysis is the possibility of presenting the results in a convenient sequential and visual form. Figure 1 shows the evolution over time of the export differential for each of the ASEAN members in each of the two digit product categories to the US and Japan, respectively. To facilitate interpretation, the differentials in the graphs are left in absolute terms (millions of US\$), but they should be seen in the context of the scale used in each case. In view of the limited sample of years, the focus here is on ascertaining whether there are any patterns in the profiles of the export differentials across countries and product groups, rather than to focus on individual years, which may give a somewhat myopic picture of a county's export performance and be unduly influenced by exceptional years or errors in the primary data.⁶ Although we will refer broadly to the decomposition of the export differential into its additive components: the industry mix effect m_{ij} , the competitive effect c_{ij} , and the allocative effect a_{ij} , full tabular details of the shift-share results are relegated to Appendix II.

Three key conclusions emerge from the graphs in Figure 1: the challenge posed to Singapore by her ASEAN partners over this period in all product categories except office and data processing machines. Secondly, Thailand appears to have been more successful in the earlier period but lost ground in later years to the Philippines and especially to Malaysia. Thirdly, Indonesia has been relatively unsuccessful so far

relative to the ASEAN bloc as a whole except in the lower value-added category of apparel and clothing exports to the US market.

As far as Singapore is concerned, she remains consistently strong in office/data processing machines in both the US and Japanese markets, primarily as a result of a favourable industry mix rather than a positive competitive effect per se. However, she appears to lose ground, especially to Malaysia, in organic chemicals and telecommunications/sound equipment in both markets, and in electrical machinery to the US by the end of the 1980s, due to a combination of unfavourable industry mix and slower growth relative to ASEAN as a whole.

The dynamic results thus support the perception that Singapore became more concentrated in the office/data processing sector over the period, including electronics, and has lost ground in the last decade in other areas of manufacturing to its competitors in the region, especially to Thailand and Malaysia.⁷

This rise of Malaysia, and to a lesser extent, Thailand, as serious competitors to Singapore and the other Asian 'tigers' over this period is dramatically illustrated by their export differential profiles in Figure 1. Malaysia achieves substantial positive export differentials in both markets in telecommunications/sound equipment and electrical machinery, and in organic chemicals destined for Japan, reflecting both a positive industry mix effect and a positive competitive effect. Thailand, on the other hand, seems to have achieved some success in the early part of the period in SITC categories 75 (to Japan), 76 and 77 but lost ground to Malaysia and the Philippines (especially in electrical machinery) in later years. The exception is in apparel and

⁶ Where specific years produced exceptionally large values for the export differential, often because a discontinuity in the data produced an exceptionally large growth rate, the data was checked carefully but the differential values are capped at US\$1000 to retain the longer term pattern in the graphs.

⁷ For a discussion of these issues, see Peebles and Wilson (1996, ch 6 and 9). The increasing importance of the electronics sector in Singapore's growth and cycles is discussed in Abeysinghe (1996).

clothing where the differentials are generally positive over the whole period. It would be a mistake to read too much into the small sample here as far as the subsequent 1997 Asian financial crisis is concerned, but it is interesting to note that Thailand is the only one of the 'emerging' ASEAN-4 countries where there is a general switch from positive export differentials to negative ones for the last three years (SITC 75 and 77 to Japan and 76 and 77 to the USA). This may be symptomatic that she was finding it difficult to maintain her competitive position in these categories, a position which was subsequently made even more difficult with the strong appreciation of the US dollar in 1996 and 1997 and the fact that her managed currency basket contained a substantial weighting for the US dollar.

Of all the ASEAN-5 countries, Indonesia shows few signs here of positive export differentials in the categories of manufactured goods examined here apart from telecommunications/sound equipment to the US market between 1991 and 1995 and in the lower value-added apparel and clothing category. Moreover, although Indonesia has fast growth in many of the categories (positive competitive effect), she does not have a positive industry mix effect in any of them in either market. Indonesia, it seems, has benefited more from faster growth in exports which are relatively slow growing compared to the ASEAN-5 as a whole rather than from diversifying into exports which are fast growing in the bloc.

V Conclusion

In this paper we have used dynamic shift-share analysis to investigate relative changes in the competitive position of the ASEAN-5 economies exporting to the USA and Japan between 1986 and 1995. This was an important period of dynamic change for this group as trade liberalisation and domestic economic reforms coincided with

growing interdependence in the world economy through trade and capital flows. The main strength of dynamic shift-share analysis here lies in its simplicity in depicting broad changes in a country's export competitiveness when compared to a larger reference group, in this case the ASEAN-5.

Our results show the challenge presented to Singapore, as one of the more 'mature' tigers, from her ASEAN neighbours in manufactured exports to the USA and Japan, with the notable exception of office and data processing machines where she remains very strong in both markets. The main rival over this period has been Malaysia which achieved significant positive export differentials in the key manufacturing categories of electrical machinery, telecommunications/sound equipment, and organic chemicals (to Japan). Thailand appears to have achieved some limited success in the early part of the period but was unable to sustain this except in the lower value added category of apparel and clothing. Even the Philippines appears to have achieved consistent positive export differentials in at least one category apart from apparel and clothing (electrical machinery) in both the US and Japanese markets. Only Indonesia fails to change her industry mix to break out of her dependence on relatively slow growing apparel and clothing into more dynamic and higher value-added export categories. Of course, one would expect some catching up here as the more mature economies increasingly specialise in higher value added manufactures and services, and our findings do not allow for productivity differences, or capture any successful diversification by the more mature economies such as Singapore into areas such as financial services, or into markets (such as China) which are not covered by our analysis.

In this sense, the older tigers, such as Singapore, may not be losing competitiveness overall but only within the broad categories measured in the analysis here as a result

of a natural process of changing comparative advantage as rising real wages and productivity lead to a restructuring away from labour-intensive industries. A classic example of this was what happened to Hong Kong during the 1980s when its entrepreneurs decided to relocate their manufacturing activities to the Pearl River Delta in mainland China. Businessmen literally closed down their factories on a Saturday, sent their machinery and equipment across the border and started work again the following week employing Chinese workers. The use of gross export data can, therefore, be somewhat misleading here if it conceals changes in the pattern of production which may have arisen in response to the loss of competitiveness itself. In Singapore, for example, one response to the perception that she was losing her comparative advantage in low skill labour-intensive goods and some capital intensive goods relative to the emerging economies, was to 'grow a second wing'. In effect government agencies were mobilised to encourage Singaporean firms to invest in developing countries in the region. The idea was to provide an extra source of income from abroad. Prominent initiatives include town planning and development in Suzhou in China, an information technology park in Bangalore, and the establishment of hotels and port facilities in Vietnam. Singapore has also achieved some success from the establishment of an industrial park on the nearby Indonesian island of Batam which forms part of a 'growth triangle' linking Singapore, the State of Johor in Malaysia and the Riau Islands in Indonesia. Although the scale of activity is currently still quite modest, cheap Indonesian land and labour are combined with Singaporean infrastructure and management services to produce labour-intensive manufactured goods. Manufactured goods exports from Singapore may decline in the short run, but it allows Singapore to focus more on the service side but and to gain from the broader

'symbiotic' benefits that simultaneous growth by the growth triangle members might bring about.

Finally, whilst two digit trade data enables us to penetrate below the one digit level, it cannot unwrap the pattern of concentration or diversification within a two digit product group such as office and data machines, or export performance in other categories such as petroleum and related products of relevance to countries such as Indonesia. In our case the choice of product groups was based on the identification of those categories of manufactured goods at the SITC two digit level which account for a substantial proportion of total ASEAN-5 manufactured exports to the markets concerned. Unfortunately comparative data at a more disaggregated level is not available and neither is service data. Although petroleum and related products (SITC 33) is also important for some ASEAN members such as Indonesia, we also excluded this category since it is not strictly comparable with our emphasis on manufactured goods and a preliminary analysis of the data suggested to us that it is more volatile and less reliable than the other categories in the OECD database.

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Appendix I Methodology and data sources

The shift-share analysis used here follows the national growth rate version based on Richardson (1978) and Esteban-Marquillas (1972) and combines it with the dynamic version of Barff and Knight (1988), but focuses on export growth over a period of time rather than employment change.

Let e =exports, i =export category at the 2-digit level, j =a competing ASEAN economy, then the change in exports of category i of competing economy j to a specific destination (USA or Japan) de_{ij} is given by the 'share effect' s_{ij} , the 'industry mix effect' m_{ij} , the 'competitive effect' c_{ij} and the 'allocative effect' a_{ij} :

$$de_{ij} = s_{ij} + m_{ij} + c_{ij} + a_{ij},$$

In other words, each sector of each ASEAN member has a 'standard' growth component given by s_{ij} to which must be added the positive and negative contribution due to factors associated specifically with each DAE ($m_{ij} + c_{ij} + a_{ij}$).

s_{ij} represents the change in exports which would have occurred if the structure of exports in the competing country had followed the reference group (homothetic exports e'_{ij}) and its export categories had grown (r_{ij}) at the corresponding group rate r_{i0} :

$$s_{ij} = e'_{ij} r_{i0} \quad \text{where } e'_{ij} = e_{i0} \cdot e_{0j} / e_{00}$$

e_{i0} = exports of i from the reference group 0

e_{0j} = total exports from the ASEAN member

e_{00} = total exports from the ASEAN reference group

If $e_{ij} - e'_{ij}$ is positive the country is specialised relative to the group and vice versa if it is negative. Hence any difference between the actual change in exports in sector i of ASEAN member j and the 'share effect' s_{ij} represents the 'net shift' or 'shift effect' or

'export differential' ed_{ij} ascribed to the specific characteristics of the individual country and is measured in absolute dollar values.⁸

$$ed_{ij} = de_{ij} - s_{ij} = de_{ij} - e'_{ij} r_{i0} = e_{ij} r_{ij} - e'_{ij} r_{i0},$$

A positive value for the export differential implies an improvement in competitiveness relative to the reference group and a negative value constitutes a deterioration in competitiveness. The export differential is in turn accounted for by the three additive components m_{ij} , c_{ij} , a_{ij} .

The industry mix effect m_{ij} shows how much of the export differential is due to a divergence between the competing economy's economic structure compared to the reference group. It will be positive if a country's share of exports in fast growing industries is larger than the reference group or its share in slow growing industries is smaller. On the other hand the mix effect will be unfavourable if the economy is dominated by relatively slow growing industries or it has a dearth of fast growing ones:

$$m_{ij} = r_{i0} (e_{ij} - e'_{ij}),$$

The competitive effect c_{ij} shows how much of the export differential is due to a difference between the export growth rate of the competing economy and the group i.e. the contribution due to the special dynamism of that sector in the ASEAN country compared with the average growth of that sector at the reference group level. If the country growth exceeds the rate for the group the effect is positive and it has a competitive advantage in that product category.

$$c_{ij} = e'_{ij} (r_{ij} - r_{i0}),$$

Finally, the interactive effect a_{ij} shows how much of the export differential is attributable to a combination of economic structure and competitiveness i.e. the

⁸ However, comparing absolute dollar amounts should be seen in relation to the sizes of the respective

industry mix effect and the competitive effect. It shows if the ASEAN country is specialised in those sectors in which it enjoys a competitive advantage. It will take on a positive value if either the competing economy specialises on exports in which it has a competitive advantage or produces little of the exports in which it has no such advantage⁹:

$$a_{ij} = (e_{ij} - e'_{ij}) (r_{ij} - r_{i0}),$$

Export data at the SITC two-digit level for each member and for the group as a whole were extracted from import data into the USA, and Japan in US\$ from the OECD *Foreign Trade by Commodities*, Paris: OECD (various years). Since total exports by country and destination were not available from this source they were instead derived for each country in US\$ by destination from export data from the International Monetary Fund, *International Financial Statistics*, Washington DC.: IMF (various years). The choice of start and end years was primarily dictated by data availability.

economies proxied by GNP or the volume of international trade.

⁹ a_{ij} will be positive if the DAE is specialised, $(e_{ij} - e'_{ij} > 0)$, in those sectors of faster group growth $(r_{ij} - r_{i0} > 0)$, or if it is not specialised, $(e_{ij} - e'_{ij} < 0)$, in sectors in which it is lacking in competitive advantages $(r_{ij} - r_{i0} < 0)$. Contrary reasoning will produce a negative allocation effect.

Table 1 Selected economic indicators for ASEAN-5 economies 1983-95

Singapore:	1983	1990	1995	1983-95
(1) Population (millions)	2.4	2.7	3.0	
(2) GNP per capita (US\$m)	7132	14412	28703	
(3) Manufacturing/ GDP (percent)	24	29	26	
(4) Trade to GDP (percent)	288	303	284	
(5) Cumulative FDI (US\$m)				32105
(6) Real GDP growth (percent)				7.4
Malaysia:	1983	1990	1995	1983-95
(1) Population (millions)	14.9	17.8	20.7	
(2) GNP per capita (US\$)	1882	2308	3439	
(3) Manufacturing/ GDP (percent)	19	27	33	
(4) Trade to GDP (percent)	91	137	174	
(5) Cumulative FDI (US\$m)				9997
(6) Real GDP growth (percent)				6.9
Thailand:	1983	1990	1995	1983-95
(1) Population (millions)	49.7	55.8	59.4	
(2) GNP per capita (US\$m)	799	1526	2729	
(3) Manufacturing/ GDP (percent)	22	27	29	
(4) Trade to GDP (percent)	42	65	76	
(5) Cumulative FDI (US\$m)				3466
(6) Real GDP growth (percent)				8.5
Philippines:	1983	1990	1995	1983-95
(1) Population (millions)	52.1	62.0	70.3	
(2) GNP per capita	278	617	1063	
(3) Manufacturing/GDP (percent)	24	25	23	
(4) Trade to GDP (percent)	49	55	63	
(5) Cumulative FDI (US\$m)				7688
(6) Real GDP growth (percent)				1.7
Indonesia:	1983	1990	1995	1983-95
(1) Population	158.1	179.3	194.8	
(2) GNP per capita	473	590	932	
(3) Manufacturing/GDP (percent)	13	21	24	
(4) Trade to GDP (percent)	48	43	45	
(5) Cumulative FDI (US\$m)				14392
(6) Real GDP growth (percent)				6.5

Trade in (4) is exports plus imports in local currency; (6) is an annual average growth rate in national currency; US\$ conversions use end of period exchange rates.

Source: Asian Development *Bank Key Indicators of Developing Asian and Pacific Countries*, Manila: Asian Development Bank 1997.

Table 2 : ASEAN-5 exports to the US and Japan as a proportion of total exports

	US	Japan	Total
Singapore:			
1983	18.1	9.2	27.3
1990	21.3	8.8	30.1
1995	18.3	7.8	26.1
Malaysia:			
1983	13.2	19.7	32.9
1990	16.9	15.3	32.2
1995	20.8	12.4	33.2
Thailand:			
1983	14.9	15.1	30.0
1990	22.7	17.2	39.9
1995	17.9	16.8	34.7
Philippines:			
1983	36.4	19.9	56.3
1990	37.9	19.9	57.8
1995	35.7	15.8	51.5
Indonesia:			
1983	20.2	45.8	66.0
1990	13.1	42.5	55.6
1995	14.7	28.1	42.8
ASEAN-5:			
1983	27.1	34.7	61.8
1990	20.1	18.4	38.5
1995	19.3	13.9	33.2

Source: International Monetary Fund *Direction of Trade Statistics* (various years), Washington DC.: International Monetary Fund.

Table 3 : ASEAN-5 exports by SITC category to the US and Japan as a percentage of total exports to each destination

	Organic Chemicals (SITC 51)			Office/Data Processing Machines (SITC 75)			Telecommunications/ Sound Equipment (SITC 76)		
	1986	1990	1995	1986	1990	1995	1986	1990	1995
USA:									
Singapore	0.1	3.1	2.6	30.8	43.9	60.5	13.4	12.9	5.4
Malaysia	1.0	0.4	0.7	0.1	3.7	19.5	9.3	22.9	25.0
Thailand	0.0	0.0	0.0	2.8	9.5	17.9	0.1	8.9	8.3
Philippines	0.7	0.2	0.1	0.8	2.3	4.8	0.6	5.2	7.7
Indonesia	0.1	0.1	0.4	0.0	0.0	2.2	0.0	0.4	9.3
Asean5	0.3	1.2	1.1	10.4	18.4	27.5	5.9	11.5	12.2
JAPAN:									
Singapore	3.4	2.7	1.2	0.6	7.7	39.9	1.7	4.9	8.0
Malaysia	0.4	0.9	1.7	0.0	1.3	7.1	0.0	1.9	15.7
Thailand	0.7	0.4	0.6	0.2	3.7	10.3	0.0	2.4	6.3
Philippines	2.3	0.9	0.5	0.3	5.3	13.3	0.0	1.7	7.4
Indonesia	0.1	0.2	0.7	0.0	0.0	0.4	0.0	0.0	0.7
Asean5	0.7	0.7	0.9	0.1	2.2	11.2	0.2	1.5	7.1
	Electrical Machinery (SITC 77)			Apparel and Clothing (SITC 84)					
	1986	1990	1995	1986	1990	1995			
USA:									
Singapore	20.6	15.2	17.1	8.4	6.5	2.3			
Malaysia	49.7	32.7	32.1	10.9	11.8	6.9			
Thailand	14.2	11.0	13.2	11.9	9.2	10.2			
Philippines	25.0	21.0	33.7	23.7	31.6	22.9			
Indonesia	0.4	0.7	2.9	8.1	18.6	17.3			
Asean5	20.4	16.6	20.7	11.4	12.8	9.3			
JAPAN:									
Singapore	4.1	5.6	14.4	0.1	0.3	0.2			
Malaysia	0.9	4.1	7.4	0.2	0.8	1.3			
Thailand	0.1	3.5	6.7	1.1	5.3	4.9			
Philippines	0.5	4.6	14.9	1.3	3.2	4.8			
Indonesia	0.0	0.1	0.9	0.0	0.9	2.8			
Asean5	0.7	2.4	6.9	0.3	1.6	2.7			

Sources: International Monetary Fund *Direction of Trade Statistics* (various years), Washington DC.: IMF; OECD *Foreign Trade by Commodities* (various years), Paris: OECD.