

(2) LITERATURE REVIEW

(i) Review of Asian Economic Development Theory – Flying Geese Model

The flying geese model is not well-known in the West, even though it is based loosely on Raymond Vernon's Neo-classical product cycle theory that examines the process of technological maturation through which a single product evolves. The theory of the "flying geese" pattern of economic development was first developed by Akamatsu Kaname in the late 1930s pertaining to an analysis of the inexorable development, via imports and then exports, of a single industry—textiles. However, it is the amalgamated version of the theory popularised by Bruce Cummings in 1984 that received widespread attention. In this rendition, the manner in which geese fly in a "v" shaped pattern is used to explain East Asia's industrialisation and effort, and a development trajectory in which latecomers replicate the developmental experience of the countries ahead of them in the formation. In Japan, however, the model is cited routinely not only by economists, but also by business and government elites. (Hatch 1998)

Proponents of this theory point to the fact Japan moved from importing textile technology from England pre- World War I, to producing its own textiles and then "upgraded" to the manufacture and export of cars and high-tech electronic products. Japanese firms then invested in Taiwan, South Korea, Singapore and Hong Kong, aiding their "economic miracles" in 1980s. Known collectively as the "NICs" (newly industrialising countries), or Asian Dragons or Tigers, it is these countries, along with Japan, that were investing heavily in the ASEAN region in early 1990s. So it is that Malaysia,

Thailand, and Indonesia have recently seen steep GNP growth rates, forming what is argued to be a third tier of "geese" or the "new NICs". Subsequently, China, Philippines and perhaps Vietnam are then considered the fourth tier of "geese" judging from their comparative advantage in labor-intensive industry from the mid 1990s.

Key to the duplication of the development experience of Japan is the assumption that product and process standardisation takes place, so that once less industrialised countries achieve a certain level of production and technology, they inherit the manufacturing processes left behind by those ahead who have moved onto "higher levels." In 1970, Yoshihisa Ojima, then a top official in the Ministry of International Trade and Industry, invoked its logic when he told a conference that the development process in Asia was one of "progressively giving away industries to other countries, much as a big brother gives his out-grown clothes to his younger brother. In this way, a country's own industries become more sophisticated." By the 1990s, what had been a simple but powerful tool of analysis had become a rather blunt tool of Japanese foreign economic policy. Thus, former Prime Minister Toshiki Kaifu (1991) told a Southeast Asian audience that:

Japan will...continue to seek to expand imports from the countries of the region and promote greater investment in and technology transfer to these countries, in line with the maturity of their trade structure and their stages of development. As the necessary complement to this effort, I hope that the host countries will make an even greater effort to create a climate receptive to Japanese investment and technology transfer.

In the hands of Japanese elites, then, the flying geese model became an ideology justifying Japan's ongoing role as the economic hegemony of

Asia—even though economists using this dynamic model clearly forecast that the "following geese" would catch up with and someday overtake the leader, only to be overtaken themselves by other followers. Despite its misuse, the model has been a valuable analytic.

Until recently, the industrializing nations of Asia have been able to mask deficiencies in their political economies by relying on foreign resources. In fact, from 1986 to 1996, several developing economies in the region actually reported modest to robust gains in total factor productivity (TFP, an aggregate index of labor and capital productivity), which for most of them had been insignificant or negative in previous periods. TFP growth in Thailand, for example, averaged 4 percent a year during this period—up from 0.3 percent between 1980 and 1986 period. In Malaysia, annual TFP growth was 2.8 percent—up from -1.9 percent. (Hatch 1998)

These productivity gains coincided with a massive influx of foreign capital and technology. Japan, as noted earlier, served as the primary supplier of capital and technology, first, to the NIEs and later—along with the NIEs themselves—to the members of ASEAN. More recently, it has joined the NIEs, particularly Hong Kong, and the overseas Chinese capitalists in ASEAN as an important supplier of capital and technology to China. Japan was able to play this role because its high-tech manufacturing firms, particularly those in machinery industries, had managed in earlier years to adopt successively more sophisticated technology, allowing them to upgrade industrial production at home and to shed "old" technology via foreign direct investment in developing Asia. In other words, Japan

functioned as the "lead goose" in a V-shaped "flying geese" pattern of regional development. The flying geese model attempts to introduce dynamism into traditional, otherwise static, trade theory. It suggests that trade and investment flows can integrate economies and create a virtuous cycle of development based on evolving comparative advantage. For example, an economy in a region marked by such integration will import raw materials from less developed neighbors and capital goods from more developed neighbors, causing its stock of capital to expand more rapidly than its supply of labor: in other words, shifting its relative factor endowments. This economy is thus induced to move gradually out of labor-intensive manufacturing and into more capital-intensive production. As this process continues, and capital goods continue to be imported, the economy will move further up the value-added chain. Drawn on a chart, the process takes a "V" shape, like flying geese.

(ii) China – A Breaker from 'Flying Geese Flock'

It is a firm belief that the spreading of the industrialization wave from Japan to the Asian NIEs (South Korea, Taiwan, Hong Kong and Singapore) and then further to ASEAN (Indonesia, Malaysia and Thailand) and China during the postwar period has been characterized by the "flying-geese model." Countries specialize in the exports of products in which they enjoy comparative advantage commensurate with their levels of development, and at the same time, they seek to upgrade their industrial structures through augmenting their capital stock and technology. Foreign direct investment from the more advanced countries to the less developed ones, through

relocating industries from the former to the latter, plays a dominant role in sustaining this process.

It is certainly true that much astonishing progress has been made in China's industrialization over the last twenty years as manufactured goods now account for 90% of total exports, up from 50% in 1980. Within the model framework of flying geese, China's competitiveness in international markets is mainly based on the abundant supply of cheap labor, broadly in line with its level of economic development. Chinese exports are dominated by labor-intensive products, such as textiles, and in product categories that are considered not high-tech as China's main role is still in labor-intensive processes, such as assembling.

This is particular true until the late 1990s, and despite a gradually shrinking gap between the forerunners and latecomers in the process of economic development, Japan continues to lead other Asian economies in terms of income level as well as competitiveness in high-tech industries, with the Asian NIEs, the ASEAN countries, and China (in this "traditional" order) catching up from behind.

In line with the "flying-geese pattern of economic development," a country's comparative advantage usually shifts from the production of primary commodities to labor-intensive manufactured goods and later on to capital- and technology-intensive products. These shifts are reflected in its trade structure, which progresses from that of a developing country to that of a newly industrializing country and finally to that of an industrial country.

According to Kwan (2001), a country's comparative advantage structure (as revealed by its trade structure) can be classified into one of four categories based on the relative magnitude of the specialization indexes of the country's primary commodities (SITC Sections 0-4), machinery (SITC Section 7, a proxy for capital- and technology-intensive products), and other manufactures (SITC Sections 5, 6, 8, 9, a proxy for labor-intensive products). For a particular industry, the specialization index is defined as its trade balance divided by the volume of two-way trade (that is $[\text{exports} - \text{imports}]/[\text{exports} + \text{imports}]$). By definition, the value of the specialization index ranges from -1 to +1, with a higher value implying stronger international competitiveness for the industry concerned.

A country typically passes from one category to another in the following sequence:

1. The '*Developing country stage*', with primary commodities more competitive than other manufactures and machinery,
2. The '*Young NIE stage*', with other manufactures becoming more competitive than primary commodities, which maintains its lead over machinery,
3. The '*Mature NIE stage*', with machinery overtaking primary commodities while other manufactures maintain their overall lead,
4. The '*Industrialized country stage*', with machinery overtaking other manufactures, which maintain their lead over primary commodities.

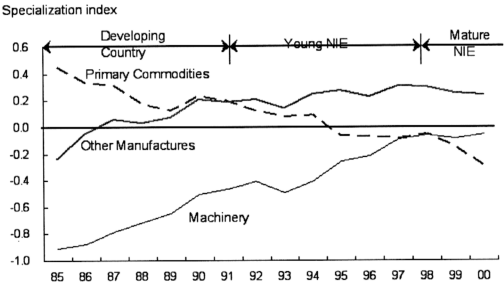
China Breaks the Flying Geese Cycle

Nevertheless, applying the flying geese framework now to China proved to be improper and inconsistent with what she has evolved and

achieved for the past three years of 1999 ~ 2001, a turbulent timing stormed by worldwide economic slump especially in the United States and Japan.

(1) China evolved into mature NIE stage - China's comparative advantage structure has undergone a process of rapid transformation since it started its ambitious reform program in the late 1978 (Table 6). Starting as a typical developing country, China became a young NIE in 1992 when the specialization index of other manufactures surpassed that of primary commodities. Subsequently, it attained mature NIE status in 1999 when the specialization index of machinery also overtook that of primary commodities. The current comparative advantage structure of China corresponds to that of Japan in the early 1980s.

Table 6 - Stages of China's Trade Structure



Source : Research of Economy, Trade & Industry, Japan (RIETI)

(2) Second event that signaled the end of the virtuous cycle of development contemplated in the flying geese model began in the mid-1990s. In 1994, China devalued its currency, making its labor-intensive

exports highly competitive relative to those from the ASEAN-4. In response, many Japanese manufacturers shifted export-oriented FDI from Southeast Asia to coastal China.

(3) Thirdly, a sharp depreciation of the yen of which suffered losses of 18 percent of its value against the US dollar between 1995 and 1996 (from RMB 7.0 per USD to RMB 8.1 per USD), caused many of the Japanese manufacturers, removed much of the competitive advantage of exporting from Asia. They responded by cutting the flow of Japanese capital and technology to export-oriented sectors in the region. For example, new Japanese FDI in Asia's electrical/electronics industry dropped 16 percent in 1996. Similar trend was noticed in early February this year 2002, whereby the Japanese government purposely adopting a weak 'yen' policy (From JY116 per USD => JY130 per USD) to stimulate the ill-fated domestic economy and boost for stronger export value with weaker currency.

One must notice, however, that the yen's depreciation is really an intervening variable that reflects a more fundamental problem: Asia's "leading goose" is desperately ill. Indeed, it was the Japanese government's phenomenally low-interest rate policy, designed to stimulate a domestic economy that has stagnated since its own speculative bubble popped in the early-1990s, that depressed the value of the yen in the mid-1990s. Japan has been unable to play the role of benevolent "leading goose" because it has run into limits on its own ability to innovate and achieve productivity gains.

Walter Hatch (1998) has argued that Asia would benefit handsomely in the short run from Japanese capital and technology exports, but might very well suffer in the long run as "embraced development" gave way to "captive development." This would occur when Japanese innovation slowed so much at home that its multinationals began to squeeze their junior partners in Asia by capturing for themselves a larger share of the economies of networking. In concrete terms, he anticipated a reduced pace of technology transfer, at least to non-Japanese partners in Asian production networks, and less generous terms for joint venture partners and non-Japanese suppliers.

(4) Fourthly, China has an abundant pool of cost competitive, young, disciplined and high school educated labor force of which worker's average earning is about USD 2.00 a day, with millions more entering the workforce each year. In the Pearl River Delta in China's Guangdong Province, the starting salary for workers with junior high or high school education was RMB 500 ~ 600 a month in 2000, little changed from the 1995 level.

China many universities and institutes are turning out well-trained yet relatively low-paid managers and engineers (Business Week, edition 22nd Oct 2001). However, cost-competitive workforce is only part of the challenge that Malaysia faces as China not only has more workers but more skilled and highly educated workers. A report by the Japan Bank for International Cooperation notes that China graduates 420,000 engineers a year while Thailand turns out just 15,000, even mighty Japan graduates only 160,000 (Supachai & Clifford, 2002)

(5) Fifthly, excellent and cost effective infrastructures such as phone services, ports, water supply, electricity and highways in China's key coastal areas and cities are among the best in the developing world. For example, the cost of industrial land in China is among the cheapest in the world, about USD 25 per square meter in Shanghai is half the price of Kuala Lumpur and Bangkok and 60 times cheaper than Yokohama, Japan. Due to stiff competition to lure foreign investment at each province, China's bureaucracy has become so streamlined that officials sometimes grant the necessary approvals for new factories in days, unheard of in commercial rivals such as Thailand and India of which might take months and years for such approval. (Business Week, edition 22nd Oct 2001)

(6) China is also fast accumulating a full complement of supporting industries, something that rival production centers in South East Asia and Latin America cannot match. Thanks to the USD 320 billion in foreign investment over the past decade, much of it from small and medium manufacturers in Taiwan and Hong Kong, China has everything from first rate plastic molding company and electronic component makers to giant petrochemical plants. That allows foreign companies to operate supply chains smoothly and effectively as by just making a call today, the parts will be at the factory tomorrow. (Business Week, edition 22nd Oct 2001)

In electronics, as recently as the middle of 1990s, Chinese factory did little more than screw together radios, telephone handsets and the electronic toys from components shuttled in from Hong Kong, Taiwan and Japan. Nevertheless, starting from 1997, foreign major international

manufactures of electronics, telecommunication and computing were relocating their semiconductor, high-end circuit board and other high tech and sophisticated electronics plants to China. In particular, the output shift to China by Taiwanese personal computer companies helped China become a 'global production base' in the sector of general-purpose high tech products.

Since early 1990s, Taiwan has been the world's largest producer of desktop PC and notebook computers from its famous OEM production for the branded PC makers such as Dell, Compaq and IBM. In the face of overseas computer makers' incessant requests for cost reductions prompted by a global race to cut prices of their products in the midst of global recession, Taiwan's OEM manufacturers and its related supporting industries were prompted to shift their production to China since 1998. For these personal computer companies, the ratio of shifting production overseas surged from 28% in 1995 to 70% in 2000, with as much as 90% of that shift abroad being to China. (Mino 2001)

(7) Finally, there appears to be the synergistic effect of 'ample foreign exchange reserves' and the 'stability of the RMB (yuan)'. During the 1997~1998 Asian currency crisis, the renminbi, instead of showing violent fluctuations, played a role in the international financial market of propping up the Asian currencies, though indirectly together with the Chinese economy, rather boosting international confidence in the Chinese currency. China had a trade balance deficit of USD 33.7 billion during the decade of 1981~1990, but swung back to a trade surplus of USD 147.6 billion in 1991~1999 with its

foreign exchange reserves reaching the world's second largest of USD 160.0 billion.

With the high exchange reserves as a leverage, China, by repeatedly vowing to maintain the stability of the RMB at home and abroad, provided the rear support to overcome the three rounds of the Hong Kong dollar crisis from the fall of 1997 through August 1998 and at the same time avert the spiraling decline of the Asian currencies. China's 'economic stability' demonstrated during the Asian currency crisis is presumed to have provided underlying support for the further quickened shift of high tech production to China from overseas. (Mino, 2001)

(iii) The Implications of China's entry to WTO

The prospect of China's deeper integration with the world economy has generated considerable interest in the potential impact of her accession, given China's already large and rapidly expanding trade sector even without WTO membership. The accession to the WTO represents a new stage in China's economic reform and opening to outside world, i.e. from selective liberalization to comprehensive liberalization, from unilateral liberalization to WTO rules-based liberalization. Liberalization of trade under WTO commitments will undoubtedly further enhances and strengthens the trading position of China in the world economy. However, China will also facing tough challenges from foreign competition due to its fast-open and comprehensive liberalization (Laird 2000).

Impact of China's WTO Accession on Malaysia

The potential impact on Malaysia or ASEAN as a whole of China's accession to the WTO is assessed on four important dimensions.

- (i) First, is the enhanced market opportunity made available to ASEAN countries as a consequence of the implementation of China's accession commitments.
- (ii) Second, is the enhanced market opportunity available to China in the domestic markets of ASEAN countries. This arises because as a WTO member, China is entitled to enjoy the same rights as other WTO members, and discriminatory treatment by ASEAN countries against China would no longer be possible.
- (iii) Third, is the enhanced competition in third country markets, particularly for those market that involved prominently the trade of both ASEAN and China - the US, Japan and the EU.
- (iv) Finally, the possible impact on FDI flows to Malaysia or ASEAN as a whole in the light of China's admission to the WTO is considered.

(i) Enhanced Market Opportunities

Malaysia under ASEAN as a whole, exports of agricultural or natural resource based products and electronics are likely to benefit the most from China's accession to the WTO. ASEAN will continue to export oil and natural gas to China, which is a net oil importer, to meet the needs of its rapid industrialisation. Exports of food, natural resource based products and agricultural commodities would expand.

Examples of these include rice, seafood, food preparations, tropical fruits, vegetable fats and oils, wood and wood products, natural rubber and tin. However, given that electrical and electronic equipment now constitutes nearly half of the exports of ASEAN countries like the Philippines, Malaysia and Singapore, these are also likely to expand into China once it accedes to the WTO. There are essentially several reasons for this. On the demand side, accession to the WTO is expected to provide a large positive stimulus to China's economy and enhance its shift towards manufactures.

This would increase China's demand for energy (oil), raw material inputs to feed its industrial sector and food. China's labor-intensive industries are raw material- and intermediate-product-intensive industries. In China's textile and light industries, the proportion of raw materials accounts for more than 75 per cent of their cost, and the workers' wages only account for 7 per cent. Likewise, China's processing trade, which engages itself mainly in producing labor-intensive products, accounts for half of the country's total export, but it also needs to import large quantities of intermediate products. Therefore, expansion of China's exports of labor-intensive products will lead to substantial growth of its imports of the related raw materials and intermediate products.

(ii) Impact on Malaysia Domestic Markets

Increased market access into ASEAN by Chinese exporters, particularly if they lead to competitive prices, is seen as benefiting ASEAN countries. However, there is also great concern about the possible disruptive effects on domestic producers. The sectors where the greatest challenges are expected are textiles and clothing, labor-intensive

manufactures and more labor-intensive electronics, where the RCA indicators collected show the strengths of China in these sectors.

Textiles and garments, footwear, food, grains, building materials, and miscellaneous products account for 21 per cent of ASEAN's gross imports from China in 1999. Judging from the developments in the 1990s, which witnessed a rather high growth rate of ASEAN's import of most of these products from China, it should be possible for China to maintain its advantageous position in the ASEAN market in the coming years.

The main products where China enjoys potential advantage in the Malaysia and ASEAN as a whole market are: machinery and electrical appliances, optical instruments/clocks/watches, means of transports, metal products and chemicals. These products account for 70 per cent of ASEAN's gross imports from China, among which machinery and electrical appliances alone account for 51.5 per cent in 1999. During the period from 1993 to 1999, ASEAN rapidly increased its imports of these products from China, at a growth rate much higher than that of ASEAN's gross import of these products from the world as a whole. Therefore, it can be expected that China's share in the ASEAN market will continue to grow.

(iii) Impact on Third Country Markets

ASEAN and China both rely on the same large markets, namely, the US, EU and Japan. Furthermore, there is significant overlap in the exports of ASEAN and China (see Table 7). In the US market, ASEAN and China are major exporters of textiles and apparel and machinery and electrical appliances. In the Japanese market, ASEAN and China are major exporters of machinery and electrical appliances.

TABLE 7 : SHARES OF ASEAN - CHINA IN TEXTILES/APPAREL & MACHINERY/ELECTRICAL APPLIANCES IMPORTS OF USA, EU & JAPAN (%)

From		Textile and Apparel			Machinery & Electrical Appliances		
		USA	EU	Japan	USA	EU	Japan
ASEAN	2000*	10.50	4.48	8.35	12.45	5.35	18.20
	1999	10.37	4.76	8.36	15.58	5.57	23.46
	1996	10.98	4.27	8.93	17.31	5.74	22.01
	1993	11.81	4.32	7.83	14.41	4.34	17.08
CHINA	2000*	11.70	7.25	70.50	13.30	3.20	18.79
	1999	11.21	6.74	61.68	8.33	2.69	12.36
	1996	12.48	5.40	51.38	5.56	1.84	8.86
	1993	16.07	6.64	43.72	3.72	1.58	5.02

Source: Calculations based on data compiled from UN COMTRADE database available from International Economic Databank, Australian National University.

2000* = Forecasted Data

Currently, China is not entitled to the benefits of the phased integration of textiles and clothing exports under the WTO's Agreement on Textiles and Clothing. However, China's accession to the WTO would allow her exports of textiles and clothing to be fully integrated into WTO rules by 2008. A recent study by Walmsley and Hertel (2000) suggests that China's competitors in textiles and clothing will suffer as a result of increased competition when China joins the WTO. The delayed implementation of the Agreement on Textiles and Clothing does little to improve this situation, from the perspective of the developing countries. In North America, imports, driven by abolition of the textile and apparel quotes, increase. China's competitors in the wearing apparel market (India, South Asia and Indonesia) experience an overall decline in exports.

(iv) Impact on FDI Flows

Global foreign direct investment (FDI) flows grew rapidly in the 1990's. From 1987 to 1992, the world annual average FDI flow was about US\$ 175.5 billion. This surged to US\$ 865.4 billion in 1999 and above US\$ 1 trillion in 2000. The FDI flowing into ASEAN developing countries was increased to

US\$ 24.25 billion in 1997 from US\$ 14.7 billion in 1993, but its share of world FDI declined to US\$ 15.4 billion in 2000 and further down to US\$ 12.5 billion in 2001. Both China and ASEAN were large recipients of FDI before the East Asian financial crisis in 1997 (Tham 2001a)

The annual average FDI flow into China and ASEAN in 1987-1992 was US\$ 4.6 billion and US\$ 8.2 billion respectively, soaring to US\$ 44.2 billion and US\$ 24.2 billion in 1997 respectively. Both economies had experienced high growth rates before 1997. China adopted a 'pro-FDI policy' after its reform and opening up (Henley, Kirkpatrick & Wilde, 1999).

Due to its large population and economic dynamics, China's huge domestic market potential became a magnet attracting FDI. The financial crisis significantly changed the economic environment of ASEAN for FDI flows. FDI flows to the region have decreased sharply since 1997 (Please refer Table 8). The absolute value of FDI inflows fell from US \$ 24.2 billion in 1997 to US \$ 15.4 billion in 2000. The share of ASEAN in FDI flows to all developing countries declined from 13.6 per cent in 1997 to 6.4 per cent in 2000 whereby China percentage share of FDI in developing countries consistently maintain an average of 20 per cent.

The decline in the relative attractiveness of the ASEAN countries as host economies can be attributed to the erosion of specific location advantages such as low wages and deteriorating infrastructure conditions as well as increasing competition from China and other developing host economies. The financial crisis in 1997 served to exacerbate this declining share as the economic contraction reduced corporate profits and the subsequent investment decisions of TNCs that were affected by the crisis.

The concern for ASEAN countries is that as China liberalizes and deregulates further its huge economy, FDI that would have gone to the ASEAN region would now move to China. This concern is particularly acute for FDI in the manufacturing sector, the most vulnerable being automotive and electronics.

Table 8 : Foreign Direct Investment Inflows to ASEAN-5 & China 1987~2001

Amount = US million	1987~92 (Average)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indonesia	999	2,004	2,109	4,346	6,194	4,677	-356	-3,270	143	99
Malaysia	2,387	5,006	4,581	5,816	7,296	6,513	2,700	3,532	5,800	4,401
Philippines	518	1,238	1,591	1,459	1,520	1,249	1,752	737	1,200	850
Singapore	3,674	4,686	8,550	7,206	8,984	8,085	5,493	6,984	6,200	5,500
Thailand	1,656	1,805	1,343	2,000	2,405	3,732	7,449	6,078	2,100	1,650
+ ASEAN	8,235	14,739	18,174	20,827	26,399	24,256	17,038	14,064	15,443	12,500
China	4,652	27,515	33,787	35,849	40,180	44,236	43,751	40,400	41,000	47,000
+ Developing	35,326	78,813	104,920	111,884	145,030	178,789	179,481	207,619	240,200	225,000
+ World	175,530	219,421	255,988	331,844	377,516	473,052	680,082	865,487	1,005,200	760,500
China % Develop~	13.2%	34.9%	32%	32.0%	27.7%	24.7%	24.4%	19.5%	17.1%	20.1%
ASEAN % Develop~	23.3%	18.7%	17.3%	18.6%	18.2%	13.6%	9.5%	6.8%	6.4%	5.5%
ASEAN-China ratio	1.8	0.5	0.5	0.6	0.7	0.5	0.4	0.3	0.4	0.3

Source: UNCTAD. *World Investment Report 2001*.

The impact of the financial crisis on China appeared to be less severe. From 1997-2000, the average annual FDI to China exceeded US \$40 billion, though real inflows in 1999 showed an 5 per cent decline compared to that in 1997. However, the share of FDI in China as a percentage of the developing world declined progressively to 19.5 per cent in 1999 due to increasing competition from other developing economies. In particular, Latin America has reemerged as an attractive location for FDI since the mid-1990s. Internally, the drop since 1997 can be attributed to the slow-down in economic growth and excess capacity in some of the manufacturing industries due to over-investment in the past decade. However, because of China's continuous high economic growth and stable financial situation after the financial crisis, it continued to be the most attractive destination for FDI in Asia.

In the future, as China's economy gathers strength China's investment abroad will increase. In fact, investment abroad by Chinese companies is

encouraged by the policy of the Chinese government. Currently, ASEAN is not yet a major market for China's FDI receiving only less than US \$100 million a year. Most of the investments go to the four ASEAN new members, i.e., Vietnam, Lao PDR, Cambodia and Myanmar. ASEAN will be a priority market for China's investment in overseas countries in the future, especially if a closer economic relationship between the two sides could be established.

(iii) The Impact and Challenge to Malaysia Manufacturing Industry

Previous studies that have investigated China's growing competitiveness have primarily compared these developments with the competitiveness of the economies in the Association of Southeast Asian Nations (ASEAN). For example, Tyers et. al.; (1987) examined the impact of China's increasing exports of labor-intensive manufactures (LIM) on ASEAN exporters of the same products.¹ Their results revealed that in 1981, despite some differences in emphasis in the export of LIM between China and ASEAN as a bloc, they do compete in the exports of clothing, textiles, footwear, furniture, textile yarn, and thread and toys, especially in the United States and Japanese markets.

A subsequent study by Herschede (1991) on export rivalry between ASEAN, China, and the Newly Industrialized Economies (NIEs) in the Japanese import market between 1982-1987, concluded that ASEAN exports suffered the most from the entrance of China to the Japanese import market. In the case of manufactured goods, ASEAN was found to have experienced competitive disadvantage in the export of machinery and transport equipment and miscellaneous manufactures (SITC 7 & 8) and

competitive advantage in the export of chemicals and manufactures (SITC 5 & 6). China, in contrast, experienced competitive disadvantage in the export of manufactures and miscellaneous manufactures (SITC 6 & 8) and competitive advantage in the export of chemicals, machinery and transport equipment (SITC 5 & 7).

Voon (1998), in turn, analyzed the export competitiveness of China and ASEAN in the market of the United States of America. The results obtained indicate ASEAN-4's exports of manufactured goods in the United States have grown absolutely between 1980-1994, despite the entry of China since 1979. However, China's share of more labor-intensive goods (MLIM, SITC 6 and 8) raised very rapidly over this period *vis-à-vis* the ASEAN-4 due to the lower cost of labor in the former country as opposed to the latter group of economies. But in the case of less labor-intensive goods (LLIM, SITC 5, 7, and 9), China's share in the United States market has been increasing steadily from 1980-1994 while Malaysia's share declined from 1980-1990 and increased from 1991-1994. More importantly, the study showed that the ASEAN-4 as a region, experienced a competitive advantage in the United States market as opposed to Herschede (1991)'s results that showed a competitive disadvantage for ASEAN in the Japanese market.

This result was attributed to the appropriate emphasis in the MILM in China's industrial structure while ASEAN economies especially Singapore and Malaysia focused, again appropriately, in the LLIM. Moreover the larger annual capital outflow of the United States in terms of direct manufacturing investment to the ASEAN-4 than to China, particularly between 1992-1994,

was also perceived to have contributed to the competitive edge of the ASEAN-4 *vis-à-vis* China.

Based on the above studies, it can be concluded that China has a growing advantage in labor-intensive goods while Malaysia has a declining advantage in these goods at the SITC single digit level.² However, in the case of technology-intensive products, the contrasting trend between China and Malaysia was not obtained. Instead, Das (1998)'s study disclosed the revealed comparative advantage (RCA) for technology-intensive goods from China increased from 0.39 to 0.45 between 1980-1993 while Malaysia's comparative advantage for the same product group also increased from 0.15 to 0.75 during the same period. In particular, by 1996, Das noted electronics exports such as PCs, semiconductors, colour televisions, VCRs, office-automation machines, and other electronics (from SITC 74, 75 and 76) became the most important exports for Singapore, Republic of Korea, Malaysia, China and Taiwan in that order.

Subsequent study by Sunil (2000) gave additional supporting evidence for the increasing importance of high technology exports from China and Malaysia as well as a few other developing countries. Based on Hatzichronoglou (1997)'s list of high technology products, Sunil's RCA indices of high technology exports show an improvement in the competitiveness of China and Malaysia in these exports from 1992-1998 (table 6). However, while Malaysia's RCA index ranked third among the developing countries in 1997, China's RCA index ranked last in the same year. It should be noted Singapore has the highest RCA for this product group for the duration shown in table 6. Thus not surprisingly, Wilson and Wong (1999)'s study on the

export competitiveness of ASEAN economies between 1986-1995, found Malaysia to be the main rival for Singapore in key manufacturing categories of electrical machinery, telecommunications/sound equipment and organic chemicals in the Japanese market.

China's emergence as a manufacturing giant particularly from 1997 to 2001 has fast improving its people living standards and helping many multinationals such as Sony and Matsushita and Mabuchi hold down costs. It also is roiling the global economy, sucking jobs and investment from other countries, straining political support for open trade and driving down the price of tradable goods in the midst of a global recession.

China's admission to the World Trade Organization in November 2001 will only add to this trend -- increasing its appeal by locking in lower duties for products it exports. Past predictions that China would become an economic power were stymied because the nation has never been able to harness the economic potential of its vast populace. But now, companies from Taiwan, Japan, the United States and other countries are seeking to satisfy the demands of their customers for lower prices, and China, with its enormous pool of cheap labor, is fast becoming a factory to the world.

Japanese management consultant Kenichi Ohmae (2001) compares China's emergence as a manufacturing colossus to Japan's spectacular postwar industrial boom, the rise of America's economy in the early 1900s or even the dawn of the Industrial Revolution in Britain. "The world has never seen an economy with these qualities before," he wrote of China recently.

The new heft of China's economy is most keenly felt in Asia, where the Chinese mainland has swallowed up \$321 billion, or 45 percent, of the \$719 billion in direct foreign investment flowing into the region since 1990. For instance, General Motors Corp., the world's largest automaker, has invested \$1.5 billion to build a manufacturing facility outside Shanghai. And Motorola Inc. eliminated 40,000 jobs over the past year, but it has poured \$3.4 billion into operations in China, making it the nation's largest foreign investor (Washington Post, 2001).

China is also beginning to undercut its neighbors in crucial export markets. China's exports soared 27.8 percent, to \$249 billion, last year, far outstripping export growth in the rest of the region. In 2000, Japan posted exports of \$477 billion, but its exports have fallen by 15 percent in the first 10 months of this year, while China's are up 6.4 percent. Andy Xie, economist with Morgan Stanley Dean Witter & Co. in Hong Kong, predicts China will export a third more than Japan in dollar terms within the next five years. (Washington Post, 2001)

Since 1989, China's share of total U.S. imports has more than tripled, to 8.4 percent. Japan's share fell by almost half during that period, to 11 percent, while the combined share of Asia's four "tiger" economies -- Hong Kong, South Korea, Singapore and Taiwan -- shrank by a third, to 8 percent. That of the region's other main exporters -- Indonesia, Malaysia, the Philippines and Thailand -- rose only a smidgen. Analysts at Salomon Smith Barney calculate that, if current growth rates continue, China's high-technology exports will overtake Japan's within the decade.