ASSESSING MALAYSIA'S MANUFACTURED EXPORTS COMPETITIVENESS IN THE EAST ASIAN REGION: A SHIFT-SHARE AND SIMULATION APPROACH.

by

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List of Acroynms

9MP	Ninth Malaysia Plan
2SLS	Two-Stage Least Squares
ACFTA	ASEAN-China Free Trade Agreement
ADB	Asian Development Bank
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Agreement
AJCEP	ASEAN-Japan Comprehensive Economic Partnership Agreement
AKFTA	ASEAN Korea Free Trade Agreement
APEC	Asia Pacific Economic Cooperation
APITD	Action Plan for Industrial Technology Development
ASEAN	Association of South East Asian Nations
CCI	Current Competitiveness Index
CE	Competitive Effect
CEPT	Common Effective Preferential Tariff
CPI	Consumer Price Index
DW	Durbin-Watson statistic
EA	East Asia
ECI	Economic Creativity Index
E&E	Electrical and electronic
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreements
FTZs	Free Trade Zones

GCI	Growth Competitiveness Index
GDP	Gross Domestic Product
GNP	Gross National Product
HICOM	Heavy Industries Corporation of Malaysia
H-O	Heckscher-Ohlin
ICT	Information and Communication Technology
IE	Interaction/allocative effect
IMD	International Institute of Management Development
IME	Industry Mix Effect
IMF	International Monetary Fund
IMP	Industrial Master Plan
JMEPA	The Japan-Malaysia Economic Partnership Agreement
MAS	Monetary Authority of Singapore
MATRADE	Malaysia External Trade Development Corporation
MCEPA	Malaysia-Pakistan Closer Economic Partnership Agreement
MCI	Microeconomic Competitiveness Index
MDC	Multimedia Development Corporation
MIDA	Malaysia Industrial Development Authority
MIER	Malaysian Institute of Economic Research
MIGHT	Malaysia Industry-Government High Technology
MPC	Marginal Propensity to Consume
MPM	Marginal Propensity to Import
MPS	Marginal Propensity to Save
MSC	Multimedia Super Corridor
MSE	Mean square error

MTDC	Malaysia Technology Development Corporation
NAFTA	North American Free Trade Agreement
NDP	National Development Policy
NEP	New Economic Policy
NICs	Newly Industrialized Countries
NS	Net Shift
OECD	Organization for Economic Cooperation and Development
PLC	Product Life Cycle
RCA	Revealed Comparative Advantage Index
RESET	Ramsey Regression Specification Error Test
R&D	Research and development
RMSE	Root-Mean-Square Simulation Error
SARS	Severe Acute Respiratory Syndrome
SIRIM	Standard and Industrial Research Institute of Malaysia
SITC	Standard International Trade Classification
SME	Small and medium enterprises
SMIDEC	Small and Medium Industries Development Corporation
SSA	Shift-share Analysis
TFP	Total factor productivity
TNC	Transnational Companies
TREATI	Trans-Regional EU-ASEAN Trade Initiative
UNCTAD	United Nations Conference On Trade and Development
US	The United States
WEF	World Economic Forum
WTO	World Trade Organization

MENILAI DAYA SAING EKSPORT PERKILANGAN MALAYSIA DI RANTAU ASIA TIMUR: PENDEKATAN *'SHIFT-SHARE'* DAN SIMULASI

ABSTRAK

Bagi kebanyakan negara Asia Timur, perdagangan antarabangsa menyumbangkan sebahagian besar daripada Keluaran Dalam Negeri Kasar (KDNK) dan kepentingannya kian meningkat. Pada hari ini, kebanyakan negara berdagang termasuk Malaysia menghadapi arena perdagangan antarabangsa yang sangat tak menentu dan mencabar, dengan tekanan saingan yang semakin meningkat. Lantaran itu, objektif tesis ini adalah untuk mengkaji daya bersaing eksport perkilangan Malaysia di antara tahun 1980 sehingga 2006 di rantau Asia Timur. Objektif khusus thesis ini pula adalah a) menilai daya bersaing eksport perkilangan Malaysia berbanding lapan negara jirannya b) membina sebuah model makro ekonometrik tentang daya bersaing eksport perkilangan dan c) menjalankan simulasi ke atas model untuk menentukan kesan tambatan Ringgit, kadar bunga yang lebih tinggi, pelaburan langsung asing, bantuan kewangan kerajaan dan perubahan dalam kadar syarat perdagangan. Dengan menggunakan analisis *shift-share* dinamik, keputusan kajian menunjukkan bahawa daya saing eksport elektronik Malaysia lebih kuat daripada eksport bahan kimianya. Eksport elektronik Malaysia lebih berdaya saing di pasaran Amerika Syarikat, tetapi kedudukan ini mulai merosot sekitar akhir tahun 1990-an. Bagi model daya saing, keputusannya adalah memuaskan. Dengan menggunakan Kaedah Kuasa Dua Terkecil Dua Peringkat (2SLS), keputusan empirisi menunjukkan kedudukan daya bersaing eksport perkilangan Malaysia dipengaruhi oleh keterbukaan ekonomi Malaysia, kadar pertukaran asing dan inflasi. Kebergantungan eksport perkilangan Malaysia kepada pelaburan langsung asing

tidak begitu tinggi berbanding Negara-negara Asia Timur. Kadar bunga kurang meninggalkan kesan ke atas pelaburan swasta. Tetapi, memberi kesan besar terhadap eksport dan import. Keputusan simulasi menunjukkan Malaysia tidak sepatutnya melanjutkan tambatan Ringgit kepada dollar Amerika sehingga tujuh tahun. Jikalau Ringgit diapungkan lebih awal, ini akan memudahkan pelarasan ekonomi Malaysia. Kehadiran pelaburan asing memanfaatkan ekonomi Malaysia, terutamanya eksport perkilangan. Tetapi, daya saing Malaysia masih kurang berbanding pesaingnya yang lain. Bantuan kewangan daripada kerajaan juga memainkan peranan dalam pembangunan ekonomi Malaysia. Walau bagaimanapun, peranannya tidak sekuat pelaburan asing. Simulasi ke atas kadar syarat perdagangan menunjukkan eksport perkilangan Malaysia adalah lebih sensitif terhadap varian harga import berbanding harga eksport. Ini menandakan kebergantungan eksport perkilangan Malaysia kepada barangan import adalah tinggi.

ASSESSING MALAYSIA'S MANUFACTURED EXPORTS COMPETITIVENESS IN THE EAST ASIAN REGION: A SHIFT-SHARE AND SIMULATION APPROACH.

ABSTRACT

For most East Asian countries, international trade represents a significant portion of their Gross Domestic Product (GDP). Albeit on a different scope and scale, the importance of international trade is rising over the years. Today, trading nations including Malaysia are facing a highly uncertain and demanding external environment with growing competitive pressures. The objective of this thesis is to study Malaysia's manufactured exports competitiveness from 1980-2006 in the East Asian region. Specifically, this thesis attempts to: (a) assess Malaysia's manufactured exports competitiveness vis-a-vis eight of her neighboring countries; (b) provide a macro econometric model of manufactured exports' competitiveness and (c) perform simulations on the model to determine the effects of the Ringgit peg, higher interest rate, foreign direct investment (FDI), financial support from the government and changes in the terms of trade. Using a dynamic shift-share analysis, we found that Malaysia's electronics exports are generally more competitive than her chemical exports. Malaysia's electronics exports are more competitive in the US market, but started to decline towards the end of the 1990s. As for the competitiveness model, we found satisfactory results for the model. Using two stage least square (2SLS), the empirical results suggest that the openness of Malaysia's economy, exchange rate and inflation affected Malaysia's manufactured exports competitive position. The dependency of Malaysia's exports on FDI is not that high compared to the other East Asian nations. Interest rates have a limited effect on private investment, but significantly affected export and import variables.

Simulation results have showed that Ringgit exchange rate peg overstayed a 7-year time span. If the peg has been lifted earlier, the economy would have undergone through an easier macroeconomic adjustment. The presence of FDI is favorable to Malaysia's economy, particularly manufactured exports. Nonetheless, Malaysia's competitiveness is still relatively lower than her competitors. Financial support from the government also plays a role in Malaysia's economic development, but not as much as the FDI. The terms of trade simulation shows that Malaysia's manufactured exports are more sensitive towards import price variations than export price variations. This suggests a high dependence on imported items for the manufactured exports.

CHAPTER 1

INTRODUCTION

1.1 Background

Developing Asian economies have always been of interest among many economists as dynamic economic growth and development in these economies have been achieved throughout the post-war period. Throughout the eighties and most of the nineties, the rate of economic growth in the region was indeed outstanding compared to that of the developed economies. For the period 1996-2006, for example, the rate of economic growth for the United States (U.S.) was 3.3 per cent and 5.8 per cent for the East Asia economies[1] (International Monetary Fund (IMF), World Economic Outlook Database, 2007). For the coming years, the U.S. is still expected to be the main engine of growth for the world, but dynamic growth will be coming from the People's Republic of China (hereafter China), India and other large developing countries.

After the World War II, Japan went through a period of restoration, followed by high economic growth. Inspired by the success of Japan, industrialization spread quickly to the neighboring countries of South Korea (hereafter Korea), Singapore, Taiwan and Hong Kong. These economies are widely known as the Asian tigers, with an average growth of 8% over the 3 decades prior to the 1997 Asian financial crisis. The remaining Association of South East Asian Nations (ASEAN) member countries later followed development strategies that promote foreign capital and exports. In the late 1970s, China started to apply an open-door policy that brought many changes to her economic activities.

[1] In this study, East Asian (EA) countries include Hong Kong, Taiwan, Korea, Singapore, Thailand, Malaysia, the Philippines, Indonesia and China. Japan is one of the destination markets.

It is the combination of export-oriented policies, inflow of foreign investments as well as supportive macroeconomic policies that has brought much prosperity and changes to the structure of most East Asian (EA) economies. The shift toward manufactured goods production and exports within Asia began with labor-intensive products and moved toward high-intensity technological and high value-added exports, particularly high-end electronics goods.

This economic success cannot be expected to last, especially for those countries which cannot integrate with the global mainstream. Forces of globalization on trade and capital flows are now much stronger. Furthermore, countries around the globe are weathered by more challenging crises. The majority of Asian countries were badly hit by the 1997 Asian financial crisis. The year 2003 was also a tough one for the developing Asia economies. They battled the uncertainties caused by the Iraq conflict, high oil prices and the outbreak of the severe acute respiratory syndrome (SARS) epidemic. The recent global risks are rising oil prices and interest rates, the widening U.S current account deficit, the weakness of the U.S. dollar and a slowdown in the high-tech market. Since 2003, high-tech exports represent more than 50% of the exports of Taiwan, Singapore, Malaysia and the Philippines. The importance of competitiveness is further heightened in the EA region, as the majority of the economies are active trading nations.

At this juncture, it is pertinent for Malaysia to bring the competitiveness issue into sharp focus. How can Malaysia gain a competitive edge in the current competitive environment so as to sustain her exports growth? Thus, this thesis represents a step towards addressing the issue of competitiveness in Malaysia by

empirically examining the key factors affecting the country's manufactured exports performance. Chapter 1 is organized as follows. The next section gives an overview of the EA trade and economic structure since the 1970s. Section 1.3 discusses the operations of the Malaysian manufacturing industries since the 1970s. Section 1.4 discusses trade policies while Section 1.5 presents the problem statement for this thesis. The objectives of the thesis are listed out in Section 1.6. Section 1.7 touches on the significance of the thesis.

1.2 Overview of EA Economies

Each of the EA economies is different in terms of the size of its population and land area, availability of resources and cultural aspects. Thus, each of them differs in terms of economic strengths and weaknesses. But, an element that can be noted is that these EA economies have focused on industrialization to pursue their economic development and growth.

Despite being small, the natural resource-poor city economies of Singapore and Hong Kong have successfully followed the export-led path for development, thanks to their early prosperity from their role as regional entreport. Singapore's economic strength is based on its superior infrastructure, efficient bureaucracy and strong economic fundamentals. Hong Kong has nearly the same features like Singapore. Both dominate the disc-drive and motherboard market where transnational companies (TNCs) play an imperative role (Dowling and Valenzuela, 2004, p. 96).

Taiwan and Korea have larger population and landmasses compared to Singapore and Hong Kong. But, they are resource-poor economies and have to export to pay for the imports required for industrialization. Their export composition has changed from agricultural commodities to industrial goods (now 98%), with the electronics sector as the most important industrial export sector (Asian Development Bank, ADB Outlook, 2005). Among the EA countries, both Taiwan and Korea have a relatively high degree of government intervention in their economic affairs and flow of foreign direct investment (FDI). They have well-developed semiconductor industries and do not welcome TNCs (Dowling and Valenzuela, 2004, p. 99).

The remaining ASEAN countries, Malaysia, Thailand, The Philippines and Indonesia are better-endowed with agricultural resources. These four ASEAN economies experienced the same pattern of evolution in their industries. Each of them started off as a resource-based exporter and gradually diversified their exports into manufacturing-based. Electrical and electronic (E&E) goods have accounted for a major part of Malaysia's manufactured exports starting only from the late 1980s. In the 1990s, Malaysia further diversified her production into computer, television and audio parts. Section 1.3 below will explain in greater detail Malaysia's trade and industrial policies.

The Philippines is a large multi-island country with a geographically dispersed population, that hinders the integration of markets[2]. During the seventies,

[2] In the eighties, the value of the Philippines manufactured exports is rather low compared to the other neighboring countries. But, studies have showed that the Philippines has recorded high growth in manufactured exports for the period 1990-2000 (see Lall and Albaladejo (2004) and Chandran et al., 2004).

the average Gross Domestic Product (GDP) growth was only 0.7 per cent, 1.0 per cent during the eighties and 3.5 per cent towards the year 2000. In 2006, the Philippines recorded a 5.4% growth in her GDP (ADB Key Indicators, various issues). Thailand, a rich natural resource nation, has been a famous food and traditional commodities exporter. This kingdom is the world's largest rice exporter till today. Thanks to government measures to promote FDI in the late 1970s, the Thai economy is gaining competitiveness in E&E exports, especially the computer and parts industry. Indonesia, a highly populated Muslim country, does not have a high profile of economy activities. It is one of the countries affected badly by the 1997 Asian crisis, where it suffered a drop of 13 per cent in its GDP in 1998. Indonesia's manufactured exports are relatively less skill- and capital-intensive compared to her neighboring countries.

The final country in the overview is China, a huge new economic and political force in the world today. The Chinese economy can be an export competitor and an emerging importer between East Asia and the rest of the world. The Chinese economy which accounted for a mere 0.75 per cent of total world exports in 1978, was ranked the 32nd largest trading nation in the world. But by 2007, China was the 2nd largest economy (after the U.S.) in the world when measured on a purchasing power parity basis. China's rapid trade growth is mainly attributed to inflows of FDI which brought in new technology and processes. Other strong points are the cheap and productive labor as well as a diversified industrial sector which serve as a magnet for many foreign investors. China's exports are booming, with a share of 8.8 per cent of the world's total merchandise exports in 2007, ahead of the U.S.'s share

of 8.4. percent Malaysia's exports on the other hand, contributed only a small share of 1.3% (World Trade Organization, WTO International Trade Statistics, 2007/08).

Table 1.1: Economic Indicators For Selected EA Countries, 1985-2006

		1985	1990	1995	2000	2002	2004	200
	Singapore							
1)	Gross National Product (GNP) per capita (US$m)	6665.7	12364.7	24283.9	24484.9	20700	24560	275
2)	Manufacturing/GDP(%)	23.3	27.1	24.8	26.5	24.9	27.1	27.
3)	Trade to GNP (%)	277.5	298.1	281.8	296.8	279.6	301.5	38
4)	Direct, Portfolio and other investment (US$m)	698	3948	-878	-5532	-10176	-12912	-207
5)	GDP growth (%)	-1.6	9.0	8.0	9.9	3.2	8.4	7.9
	Thailand							
1)	GNP per capita (US$m)	741.6	1508.9	2786.3	1935.5	1975	2497.2	272
2)	Manufacturing/GDP(%)	21.9	27.2	28.4	33.4	33.6	35.2	35.
3)	Trade to GNP (%)	42.1	65.7	75.6	107.6	106.4	120.4	125.
4)	Direct, Portfolio and other investment (US$m)	1853	9744	21949	-10261	-1845	3628	886
5)	GDP growth (%)	4.6	11.2	9.3	4.4	5.3	6.1	5.0
	Malaysia							
1)	GNP per capita (US$m)	1848.2	2373.5	4093.2	3531.1	3950	4530	497
2)	Manufacturing/GDP(%)	19.8	24.2	26.4	34.3	30.5	31.4	29.8
3)	Trade to GNP (%)	84.4	137	174	218.27	196.25	208.2	186.
4)	Direct, Portfolio and other investment (US$m)	2053	1758	7611	-6276	-3142	3969	-118
5)	GDP growth (%)	-1.1	9.0	9.8	8.3	4.1	7.1	5.9
	The Philippines							
1)	GNP per capita (US$m)	542.1	710.4	1083.9	1011.4	1110	1220	132
2)	Manufacturing/GDP(%)	25.2	24.8	23.0	22.6	23.1	23.0	22.9
3)	Trade to GNP (%)	45.0	48.2	91.9	94.7	87.1	99.7	85.7
4)	Direct, Portfolio and other investment (US$m)	1073	1173	2829	3225	1029	-1647	-185
5)	GDP growth (%)	-7.3	3.1	4.7	4.4	4.3	6.1	5.4
	Indonesia							
1)	GNP per capita (US$m)	508.77	608.75	1007.17	677.7	940	1130	128
2)	Manufacturing/GDP(%)	16.0	21.0	24.1	26.0	29.7	28.3	28.0
3)	Trade to GNP (%)	26.0	25.8	38.3	11.4	45.5	47.5	44.4
4)	Direct, Portfolio and other investment (US$m)	1782	4495	10140	-7896	-1103	1852	2148
5)	GDP growth (%)	2.5	9.0	9.8	8.3	4.4	5.1	5.4
	Korea							
1)	GNP per capita (US$m)	2229.9	5887.3	11427	10837.3	11502	14154.3	1584
2)	Manufacturing/GDP(%)	29.2	28.8	29.4	26.1	23.7	25.6	24.7

Table 1.1: Continued

3)	Trade to GNP (%)	-	51	50.5	51.2	57.4	70.3	71.5
4)	Direct, Portfolio and other investment (US$m)	1725	2896	17273	12725	7338	9352	221652
5)	GDP growth (%)	6.5	9.0	9.2	8.5	7.0	4.6	5.0
	Taiwan							
1)	GNP per capita (US$m)	3287.4	8106.2	12648.2	14123.3	13719	14731	15650
2)	Manufacturing/GDP(%)	37.6	33.3	27.9	26.3	26.2	25.5	21.4
3)	Trade to GNP (%)	81.9	74.2	79.8	92.1	84.2	108.1	120
4)	Direct, Portfolio and other investment (US$m)	-3171	-15150	-8190	-8019	8750	6831	-22987
5)	GDP growth (%)	5.0	5.4	6.4	6.0	3.9	5.7	4.6
	Hong Kong							
1)	GNP per capita (US$m)	4841	13101	21382	25216.3	25590	27130	27670
2)	Manufacturing/GDP(%)	22.1	17.6	8.3	5.8	4.4	3.9	3.3
3)	Trade to GNP (%)	183.8	229.2	279.0	283.6	251.7	314.7	343.7
4)	Direct, Portfolio and other investment (US$m)	-	-	-	4165	-19751	-20093	-19659
5)	GDP growth (%)	-	3.7	3.9	10.2	1.9	8.1	6.8
	China							
1)	GNP per capita (US$m)	291.11	342.5	571.4	843.7	1270	1500	1740
2)	Manufacturing/GDP(%)	38.38	36.97	42.27	44.26	43.7	45.4	43.1
3)	Trade to GNP (%)	-	29.7	40.8	44.5	49.4	70.2	67
4)	Direct, Portfolio and other investment (US$m)		-2774	38673	1957	32340	110729	6017
5)	GDP growth (%)	-	3.8	10.5	8.0	8.3	9.5	10.7

Note: The data for (1) for all countries are for the year 2005.
Trade in (3) is exports plus imports in local currency; (4) is net long-term capital (private and official) and net private short-term capital; (5) is the annual average growth rate in the national currency; US$ conversions use average of period exchange rates.
Source: The ADB Key Indicators, various issues

Table 1.1 above shows some economic indicators for eight EA countries, namely, Hong Kong, Taiwan, Korea, Singapore, Malaysia, Thailand, the Philippines, Indonesia and China. GNP per capita is a rough measure of the level of economic development (Tan 2000, p. 43). The GNP per capita for both Hong Kong and Singapore are noticeably higher than the rest, mainly because of their laissez-faire policy and small population. Compared with the ASEAN economies of Thailand, the Philippines and Indonesia, Malaysia's per capita GNP (U.S. $4970) is still nearly two

times higher than that of Thailand in 2006. As for the Philippines and Indonesia, both the economies have even lower per capita GNP.

The share of manufacturing output in GDP is an important statistic for East Asia as it indicates the extent of industrialization achieved in these countries. For all the countries in Table 1.1 (except for Indonesia), the share of manufacturing output in the economy and trade to GNP statistics showed rising trends. This implies rapid expansion in export-oriented industrialization which has been further underpinned by their relatively high openness to international trade. This is the actual scenario occurring especially in China. Since China's admission to the WTO, there has been considerable achievement whereby China is emerging fast as a threat to the EA nations' manufacturing sector. From Table 1.1, China's share of manufacturing output in GDP in 2006 (43.1 percent) is much higher than the others, indicating a potential competitor in the export market in the near future. For all the selected countries, the volume of international trade is also increasing faster than their growth of income. This is a sign of export dynamism.

Other than being prominent exporters of manufactures, a common feature in the EA economies is in their foreign trade pattern, whereby the industrialized countries are their most important trading partners. They are the U.S, Japan and the European Union (EU). For all the countries, the share of exports going to the U.S. market is the highest. Table 1.2 below shows the share of exports going to the U.S. has started to dwindle since 2004, most probably due to the slower pace of growth of the U.S. economy. There has been also some diversification away from the U.S. market during the nineties, notably for the exports of Korea, Hong Kong and

Singapore. For Malaysia, the U.S. remains her traditional market and in 2006, Malaysia's total trade had surpassed the RM1 trillion mark. She has also diversified into more markets mainly the ASEAN countries, West Asia, Australia and India.

Table 1.2
Share of EA Exports to the US, Japan and the EU As A Proportion of Their Total Exports (%)

	The US	Japan	EU	Total
Malaysia				
1985	12.97	23.78	15.0	51.75
1990	16.94	15.81	14.9	47.65
1995	20.71	12.68	13.85	47.24
2000	20.52	13.07	7.75	41.34
2004	18.77	10.08	8.35	37.20
2006	18.79	8.87	8.16	35.82
Indonesia				
1985	21.74	46.23	2.6	68.6
1990	13.10	42.54	3.4	59.0
1995	13.92	27.06	16.44	57.42
2000	13.66	23.20	6.5	43.36
2004	13.63	15.93	8.81	38.40
2006	11.17	21.56	6.26	38.99
Thailand				
1985	19.67	13.36	21.4	54.43
1990	22.71	17.20	21.6	61.51
1995	17.86	16.79	19.27	53.92
2000	21.40	14.68	8.29	44.37
2004	16.11	13.98	8.7	38.79
2006	15.05	12.67	7.01	34.73
The Philippines				
1985	35.88	18.93	13.5	68.31
1990	37.90	26.26	13.7	77.86
1995	35.79	15.75	16.8	68.34
2000	29.95	14.73	10.37	55.05
2004	18.16	20.12	10.74	49.02
2006	18.35	16.70	9.89	44.94
Singapore				
1985	21.16	9.41	9.5	40.07
1990	21.31	8.72	14.4	44.43
1995	18.26	7.80	11.87	37.93
2000	17.34	7.55	9.8	34.69
2004	11.73	5.82	9.64	27.19
2006	10.17	5.47	8.93	24.57
Taiwan				
1983	46.5	10.0	10.9	67.4
1990	32.9	11.7	16.4	61.0
1995	24.0	11.6	13.3	48.9
2000	23.5	11.2	6.4	41.1
2004	16.2	7.6	7.2	31.0

Table 1.2 Continued

Hong Kong				
1985	30.81	4.24	16.2	51.25
1990	24.07	5.72	16.9	46.69
1995	21.77	6.09	11.68	39.54
2000	23.18	5.52	9.16	37.86
2004	16.55	5.24	8.76	30.55
2006	14.84	4.81	8.53	28.18
China				
1985	8.55	22.22	-	-
1990	8.34	14.51	-	-
1995	16.62	19.13	12.68	48.43
2000	20.93	16.72	9.34	46.99
2004	21.09	12.39	9.74	43.22
2006	21.03	9.46	24.97	55.46

Notes: The EU includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the UK.
Source: Author's computation based on the United Nations (UN) Comtrade database. Only Taiwan's data is taken from the 'Growth and Change In Asia and the Pacific Key Indicators 2001: ADB .

For decades, the direction of trade and the export structure of the East Asia economies are somewhat similar. Nations endowed with similar natural resources and human capital are increasingly competing in a similar range of electronics manufactured goods. For Malaysia, her main E&E exports are automatic data processing machines and parts, digital integrated circuits and other semi-conductor devices. For the chips industry, Korea is Malaysia's close competitor in penetrating the US market while we also face some competition from Thailand in telecommunication and sound equipments. For the higher end computer components, Malaysia is still slightly behind and faces competition from Taiwan. Taiwan specializes in the production of desk and laptop computers, terminals and other more advanced computer components.

A late comer, China also shares practically a similar export structure with some of the EA countries[3]. This has stirred an important regional economic issue - the export rivalry among ASEAN, the EA Newly-Industrialized countries and China. Now, many are wondering about China's trade potential and the policy she will pursue to deepen and expand her industrialization in the near future.

With that in mind, this thesis aims to assess the degree of export competition among the EA nations and examine the possible factors that influence Malaysia's export competitiveness. Such an investigation is useful for future policy directions to enhance the competitive position of Malaysia's manufactured exports in the Asian region. Before that, we will discuss the development of Malaysia's manufactured exports in the coming section.

1.3 Malaysia

This section provides an assessment of Malaysia's manufacturing export sector since 1970. The composition of Malaysia's manufactured exports and its market access will also be analyzed.

[3] Weiss and Gao (2003) studied the degree of competition between five ASEAN countries (Singapore, Malaysia, Thailand, Indonesia and the Philippines, hereafter ASEAN-5) and China to the US and Japan market over the period 1995-2000. It was a disaggregated analysis of competition for five 2-digit SITC categories. The exports are office and data processing machines (SITC 75), telecommunication equipments (SITC 76), electrical machineries (SITC 77), furniture (SITC 82) and miscellaneous. For all categories except for the electrical machinery, a significant loss in market share to China was recorded. Though losses of market share are recorded, the absolute export volumes from the ASEAN-5 countries are still rising. Eichengreen and Tong (2006) found that China's exports has different effects on each of her neighbors' exports. Countries which specialize in intermediate and capital goods such as Malaysia will feel the positive effects from China's exports while negative effects will be felt by those specializing in textile and apparels.

1.3.1 Malaysia's Manufacturing Sector

Since independence, Malaysia has experienced a dramatic transformation of its economy. From a country dependent on agriculture and commodities during the sixties, Malaysia has today become a manufactured export-driven economy. The strong growth of the country's exports has been fuelled by the expansion of its manufacturing sector.

In the manufacturing sector, Malaysia has enjoyed particular success in the E&E products. According to Das (1998), in developing countries, manufactured exports leave more dynamic growth effects. The range of benefits to an economy are steadier export earnings, favorable terms of trade, higher rates of investment, and technological progress, thus bringing the economy closer to international standards. The role of the manufacturing sector in transforming the Malaysian economy is vividly shown in the changing sectoral shares of her GDP. In 1980, the agricultural sector contributed a 21% share to the GDP while the manufacturing sector's share was 17.2%. In 2007, the latter's sectoral share was 30.1% while the former was merely 7.6% (Economic Report 1980/81 and 2007/08).

In Malaysia, government policy plays an imperative role. Among the major economic policies are the New Economic Policy (NEP) and National Development Policy (NDP), as well as two industrialization strategies, namely import-substitution and export-orientation. The implementation of these different industrial development policies has caused industrial restructuring within the manufacturing sector. The

changes in the composition of Malaysia's manufactured exports are shown in Table 1.3 below.

It is obvious that the E&E category dominates an increasing part of the Malaysian manufactured exports. It is also the E&E industry that is contributing significantly to the country's manufacturing output, exports and income. Since 1980, the share of the E&E has started to dominate Malaysia's manufactured exports (refer Table 1.3). The rising share of chemical and petroleum product exports in 2008 is contributed by the higher world fuel prices. According to the WTO Report, Malaysia was the world's 21st largest exporting country and the 28th leading importer in 2008. The value of her exports and imports represented nearly 250 per cent of her GDP. All these statistics reflect the rapid expansion of Malaysia's trade. Now, we will take a look at Malaysia's development experience in historical perspective with emphasis on the nature of industrial and trade policies as she industrializes.

Table 1.3
Malaysia: Composition of Manufactured Exports, 1970-2008(%)

	1970	1975	1980	1985	1990	2004	2008
Food, beverages and tobacco	18.0	13.0	8.0	6.0	4.0	2.4	3.9
Textiles, clothing and footwear	5.0	12.0	13.0	10.0	9.0	2.6	2.2
Wood products	15.0	11.0	7.0	3.0	3.0	2.7	2.0
Rubber products	3.0	2.0	1.0	1.0	3.0	1.6	2.5
Chemicals and petroleum product	32.0	10.0	6.0	13.0	7.0	10.6	14.7
Non-metallic mineral products	3.0	1.0	1.0	1.0	2.0	0.8	1.08
Iron, steel and metal manufacture	4.0	2.0	4.0	3.0	3.0	4.9	5.9
Electrical and electronic machinery and appliances	2.0	15.0	48.0	52.0	57.0	65.8	56.4
Other machinery and transport equipment	11.0	13.0	4.0	5.0	4.0	1.3	1.9
Other manufactures	7.0	23.0	8.0	7.0	8.0	2.2	2.6
Total manufactured exports (RM million)	615	1786	6319	12471	46833	390938	491930

Source: Malaysia, Bank Negara Monthly Statistical Bulletin, various issues

1.3.2 The Development of the Malaysian Industrial Policy

Since Independence in 1957, the profile of the Malaysian economy has changed tremendously, from an economy dependent on primary commodities (rubber, palm oil and tin) to a leading exporter of manufactured goods. The nation's key industrialization phases can be divided into four distinct phases. They are the:-

1. First round import-substitution phase (1958-1968)
2. First round export-oriented industry phase (since 1968)
3. Second round import-substitution phase / Heavy industrialization (1980-1985)
4. From 1985 to the present, second round export-oriented industry phase with high human and capital usage. In this phase, there has been substantial liberalization in Malaysia's international trade.

During the first stage of industrialization, production of simple consumption goods was emphasized. It was more of a domestic market-oriented strategy. Exports were concentrated in resource-based industries such as food and rubber industries. The role of manufactured exports however, was minimal.

Performance was lacklustre due to the small market and heavy reliance on imported technology. Because of these circumstances, export-oriented industries were promoted in the early 1970s through the Investment Incentives Act of 1968 and the establishment of Free Trade Zones (FTZs). Tariffs were gradually reduced and generous incentives introduced to attract foreign firms. Under this phase, the electronics and the textiles industries started to expand. Starting from the 1980s,

electronics has accounted for nearly 50 per cent of Malaysia's manufactured exports (refer to Table 1.3).

Malaysia entered another phase of its industrial development in the 1980s, when the government continued to further develop the export-oriented industries. The economy recorded an average 8% growth in the mid-1980s, owing much to foreign investors. The manufacturing industries were still mainly comprised of low value-added electronic and semi-conductor items. In addition, the government promoted the development of heavy and capital-intensive industries and the Heavy Industries Corporation of Malaysia (HICOM) was established in 1980 to undertake several projects that involved production of iron and steel, cement and small engines. The national car company, Proton, commenced operations in July 1985 and this was a significant phase in the country's industrial development. Unfortunately, about the same time industries under the heavy industrialization programme slowed down owing to accumulating budget deficits and the collapse of commodity prices. This brought to light the urgency to re-evaluate the nation's development strategies and policies.

The first Industrial Master Plan (IMPI, 1986-95) was formulated to guide the country in becoming an industrial nation. The IMPI acknowledged that Malaysia's industrial structure is characterized by various imbalances and emphasized the need to diversify and deepen both resource and non-resource based industries. The IMPI was a success and the composition of manufactured exports as a percentage of total exports has increased from an average of 4.0 per cent of total exports during the sixties to 25.0 per cent in the mid-eighties. The scheme was extended to IMPII

(1996-2005) which focused on the integration of manufacturing operations in order to strengthen her industrial linkages and encourage the development of more high-technology and knowledge-intensive industries. This will then further enhance value added manufacturing activities and productivity. Some of the targets of the IMPII were underachieved where many viewed global setbacks such as the 1997 Asian financial crisis, September-11 attack and the SARS in 2003 have derailed plans to meet the expected targets.

It was also under the IMPII where the government initiated greater efforts toward encouraging closer linkages between the small-medium enterprises (SMEs) and the TNCs. Till today, the Malaysian SMEs are a crucial component of the nation's economic development. There are several institutions to address the SMEs' development such as Malaysia External Trade Development Corporation (MATRADE), Malaysia Technology Development Corporation (MTDC), Small and Medium Industries Development Corporation (SMIDEC) and the Standard and Industrial Research Institute of Malaysia (SIRIM) Berhad. Even though SMEs account for more than 90 per cent of the total manufacturing establishments in the country, most of the SMEs are concentrated in the textiles and apparel, non-metallic metal products and the food and beverage industries. The E&E industries are mainly dominated by foreign companies. These foreign manufacturing firms lead most of the E&E research activities as the technological competence of the local SMEs are much more inferior. Our indigenous manufacturing firms lack financial resources and a capable labor force in research and development (R&D) knowledge to complement any research (Narayanan and Lai, 2000).

As for the current industrial master plan IMPIII (2006-2010), the key thrust is to drive industrialization to a higher level of global competitiveness as the economy moves towards a developed nation status. The government expects merchandise exports to rise to RM1.4 trillion by the end of the IMPIII, with electronic exports contributing more than 50 per cent. Hence, the focus will be on the growth of higher value-added manufacturing industries which require higher technological maturity. For any industry to be technologically competent, a well-educated and technically-skilled human capital and substantial R&D capabilities are necessary. In Malaysia, research institutions for high-tech industries are few. It was only in the 1990s, that the government started to develop research and technology institutions such as the Action Plan for Industrial Technology Development (APITD) in 1990, the Malaysia Technology Development Corporation (MTDC) in 1992 and the Malaysia Industry-Government High Technology (MIGHT) in 1993. During the IMPII, some of the institutions set up are the Multimedia Development Corporation (MDC) and the Small and Medium Industries Development Corporation (SMIDEC) in 1996 and the Multimedia Super Corridor (MSC) in 1997. As for the labor-intensive production industries, total factor productivity (TFP) is stressed. The importance of TFP for the Malaysian economy has been highlighted. In 2006, the Ninth Malaysia Plan (9MP) (2006-2010) was launched[4]. After examining Malaysia's industrial policies, the following section will address Malaysia's trade policies as

[4] In the 9MP, four priority areas are economic competitiveness and growth, education and human capital development, employment creation and quality of life. Again, the government has underscored the need to strengthen competitiveness in this new era. The manufacturing sector is expected to grow by an average 6.7% during the 9MP with the E&E industry taking the lead. There are specific incentives to attract quality FDI and potential SMEs will be nurtured to become part of the supply chain. The linkage between the Malaysian SMEs and the TNCs in the economy is low, mainly because of their technological gap. In the SMEs themselves, they still face many weaknesses that need to be addressed fast as the local SMEs have a potential role to increase the resilience of the economy.

both industrial and trade policies have significant consequences on the pattern and direction of trade.

1.4 Trade Policies

The shift from an import-substitution phase to an export-oriented industrialization phase has affected the country's trade policies accordingly. Generally, trade policy instruments can be divided into protectionist and non-protectionist instruments.

Protectionist instruments are usually applied at the border. They include tariffs and non-tariff measures such as quantitative restrictions and import licensing. These protectionist measures protect domestic producers from foreign competition as they make competing imports more expensive. Non-protectionist instruments are used inside the border through tax incentives, export related ownership incentives and export-processing zones. These non-protectionist instruments aim to promote the country's exports and thus make them more competitive in the world market. The major ones applied in Malaysia are the excise tax and sales tax.

Compared to the other developing nations, the usage of trade instruments in Malaysia's manufacturing sector has been minimal. Even during the import-substitution phase, tariff protection was rather moderate and the government was primarily encouraging new investments in the manufacturing sector. Most of the protection was on the consumer goods industries. It was only in the 1980s when heavy industries, especially automobile, received high protection (Rasiah, 2002).

Under the early phase of export-orientation, the average nominal tariff rate was increased moderately from 18 per cent in 1970 to 22 per cent in 1978.

There were more reforms in the 1980s as the country embarked on heavy industrialization. As part of the heavy industrialization policy, tariffs on a wide range of manufactured goods were increased to protect the industries. The average tariff rate was 22 per cent in the late 1970s. By the mid-1980s, the rates were increased to 26 per cent. Alavi (1996) found that the protection level for intermediate goods has increased by 32% during the course of 1969-87 while protection for consumer goods dropped by 63% during the same period.

The 1985-87 economic crisis slowed down the heavy industrialization phase. The government was forced to emphasis the private sector and participation of FDI to strengthen the export-oriented phase. Towards the late 1980s, there were significant tariff reductions and removal of quantitative import restrictions. The average tariff rates were above 20 per cent in the mid-1980s, but were cut to 17 per cent in the late 1980s (Athukorala, 2005). At the same time, the 1985 Plaza Accord whereby appreciation of the Yen against major currencies has been beneficial for Malaysia's manufactured exports. Many Japanese multinational firms reallocated their manufacturing base to ASEAN countries,that are abundant with natural resources and cheap labor.

Since 1989, even more tariff reductions were done under the Common Effective Preferential Tariff (CEPT) of the ASEAN Free Trade Agreement (AFTA). For example, in the 1993 Budget, tariffs on 600 items were abolished. Malaysia has

completed the inclusion of nearly all manufactured, processed and unprocessed agricultural products into the CEPT Scheme. Our manufactured products practically enjoy 'free trade' status. On the contrary, assistance is provided through import tariff concessions, tax exemptions, export credit guarantees, export promotion and so forth. By 2005, there were only limited restrictions being applied on Malaysia's imports. These restrictions focused more on the automotive and food industry. About 99.3% of the manufactured products come under the CEPT concessions, of which 96.9% are between 0 to 5% while two-thirds of the products are at zero duty (WTO, 2006). Malaysia is still reducing the coverage of tariffs as a commitment to the AFTA and WTO. It was only in 1998, when the average tariff rate increased to 9.3% from 8.1% in 1997. The increase in the rate was to reduce the current account deficit and 'protect' the local producers (Athukorala, 2005). Bora and Neufeld (2001) commented that Malaysia's tariff response to the 1997-98 financial crisis was to increase the government's revenue. Tariffs on items with high-income elasticity from the consumer goods industry were raised. Nonetheless, other measures such as allowing 100 per cent foreign ownership in new investment and existing ones in the manufacturing sector still remain.

Table 1.4: Malaysia's Simple Average of Applied Ad-valorem Tariff, 1996-2005

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Simple Average of Applied Ad-valorem Tariff (%)	9.0	7.8	9.3	9.5	9.2	9.2	9.3	9.3	8.6	8.1

Source: The rates from 1996-2004 are available from the APEC Secretariat online database 2005. The rate for 2005 is from the WTO Trade Policy Review, 2006.

Table 1.4 shows Malaysia's simple average of applied ad-valorem tariff after the 1997/98 crisis till 2005. It clearly shows that Malaysia is progressively reducing her tariff rates as she continues to liberalize her trade regime. Simultaneously, Malaysia is at various stages of negotiating a number of free trade agreements. The coming sub-section will provide an update of Malaysia's multilateral trade agreements. Any regional and bilateral FTAs should be regarded as opportunities to achieve faster trade liberalization.

1.4.1 International and Regional Trading Framework

The Asian economies are latecomers in the move towards FTA compared with the US and Europe. Regionalism only started to rise in the region since the 1990s. Malaysia has been a member of the WTO since 1995. Malaysia is also a member of the ASEAN and the Asia Pacific Economic Cooperation (APEC). One of the main initiatives of the ASEAN towards economic integration is the AFTA. AFTA aims to promote free trade and intra-regional trade among the members while APEC aims to facilitate economic growth, trade and investment co-operation in the Asia-Pacific region. APEC hopes to achieve free trade and investment by 2010 for industrialized members and by 2020 for developing members. Another important initiative of the ASEAN is the ASEAN Economic Community (AEC) which aims to make ASEAN a single market and production base by 2020.

From time to time, Malaysia has signed both bilateral and regional FTAs. To date, the bilateral FTAs Malaysia has signed are the Japan-Malaysia Economic Partnership Agreement (JMEPA) and the Malaysia-Pakistan Closer Economic

Partnership Agreement (MCEPA). Together with its ASEAN partners, Malaysia has signed the ASEAN-Japan Close Economic Partnership Agreement (AJCEP), ASEAN Korea Free Trade Agreement (AKFTA) and the ASEAN-China Free Trade Agreement (ACFTA). A few FTAs that are still being negotiated are the Malaysia-Australia FTA, Malaysia-New Zealand FTA, Malaysia-Korea FTA and lately the Malaysia-US FTA. A regional FTA still in negotiation is the ASEAN-EU FTA[5]. Efforts are ongoing to strengthen regional trade integration within the ASEAN region. The 1997 Asian financial crisis has taught the EA economies the importance of regional integration to sustain stability in the economy. Another milestone of the ASEAN is the signing of the ASEAN Charter in November 2007. The key purpose of the Charter is to establish ASEAN as a full-fledged inter-governmental organization in order to step up the pace of regional integration and community building.

1.5 Problem Statement

East Asian (EA) economic growth is renowned for its heavy reliance on international trade. Malaysia is also industrializing fast to become a well-known E&E exporter in the international market. However, international competition gets stiffer as globalization gathers momentum. In addition, Malaysia is surrounded by competitors with different comparative advantage. At one end of the spectrum, are the economies endowed with ample, cheap labor such as China and India while Taiwan and Korea with strong productivity and innovations are at the opposite end of the spectrum. Thus, Malaysia now worries about its capacity to compete

[5] A comprehensive explanation for Malaysia's bilateral FTAs, regional FTAs and others is obtainable from the WTO website (http:www.wto.org/)

internationally: whether she can improve the 'quality' of her exports sufficiently to compete, and whether she can cope with the costs pressure. What are the factors that Malaysia needs to sustain her competitive position in the EA region?

1.6 Objectives

The main objective of this thesis is to examine changes in Malaysia's manufactured export competitiveness position. The specific objectives are as follows:-

1) To assess Malaysia's manufactured exports competitive position vis-à-vis other dynamic Asian economies, consisting of the 'four-dragons' of Singapore, Taiwan, Korea, the Philippines and Hong Kong, the two dynamic South-East Asian nations of Thailand and Indonesia as well as emerging China, in terms of their manufactured exports to the US market (from 1980-2006), Japan (1980-2006) and the EU market (1980 till 2005). The shift-share analysis will be used. As for the categories of manufactured exports, the top manufactured exports to the U.S, Japan and EU markets are chosen. The Standard International Trade Classification (SITC) data are used. The choices are organic chemical (SITC51), office/data processing machines (SITC75), telecommunications/sound equipment (SITC76) and electrical machinery (SITC77).
2) To analyze the determinants of Malaysia's manufactured export competitiveness in a multi-equation structural framework. A medium-sized macroeconomic model will be utilized.

3) To derive policy options for Malaysia's manufactured exports competitiveness from several simulation experiments. The five simulations chosen are to lift the Malaysian Ringgit peg earlier, a tighter monetary stance, higher inflows of FDI compared to financial support for investment and an improvement in the terms of trade.

1.7 Significance Of Study

1) In 2006, approximately 80% of the world's merchandise exports comprised of manufactures. Several Asian countries such as Japan and China are strong manufactured exporters in the world. Most of the earlier researches on the export competitiveness of the EA economies (including Malaysia) have been confined to a descriptive analysis. Moreover, these researches are not up-to-date. Thus, this dissertation will try to review the development of the EA manufactured exports for a longer time span. The time period covered will be from 1980 until 2006. This will help Malaysia's policy makers, export promoters, and the manufacturing exports industry in particular to understand the market better.

2) This study is also indeed timely as China continues to emerge as a major trading nation. We can see the changing direction and composition of the East Asian manufactured exports, and how far China has affected their market share.

3) Most studies on export competitiveness do not focus on the determinants of competitiveness. It would certainly be an insightful study to assess the