



**UNIVERSITI PUTRA MALAYSIA**

**EFFECTS OF TRADE LIBERALIZATION ON ECONOMIC GROWTH AND  
BALANCE OF PAYMENT OF ASEAN FIVE PLUS THREE**

**YONG CHEN CHEN**

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**EFFECTS OF TRADE LIBERALIZATION ON ECONOMIC GROWTH AND  
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**By**

**YONG CHEN CHEN**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

**July 2007**



*To those who  
Read, Appreciate and, Commend*



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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**July 2007**

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ASEAN -5 plus 3 ( Malaysia, Thailand, Philippines, Singapore, Indonesia, Japan, Korea and China) have undergone a substantial trade liberalization in the mid 1980s. As a result, the share of exports in GDP has also risen as the region became more industrialized. A greater reliance on exports has helped the region to sustain rapid growth rate but at the same time it has made the region more dependent upon import demand from the rest of the world particularly the industrial countries. These countries were running huge surpluses in 2000 and 2001, compared with large deficits just a few years earlier. Indeed, it is assumed that the initial export growth and trade surplus generates such favourable responses in the economy that the balance of payments surplus actually grows. There is no consideration given to the possibility that the rate of growth of income determined by the rate of growth of imports and thereby imposing a constraint on the export-led growth rate. In addition, there is a fairly well defined and trade-off showing that the faster the rate of growth of output, the worse the trade balance



in the balance of payments; and conversely, as growth slowed the deficit improved and a surplus developed. Thus we should analyze whether the economic growth is constrained by the trade balance in the balance of payments. Panel analysis is employed to estimate the effect of trade liberalization on export growth, import growth and the balance of payments for ASEAN-5 plus 3 based on Thirlwall's Law for a sample period of 1970-2003. This study finds that liberalization stimulated export growth but raised import growth by more for Japan, Malaysia and Korea. Among all, Indonesia is found to be constrained by the external market. In conclusion, the findings have important implications for the sequencing and degree of liberalization.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KESAN LIBERALISASI TERHADAP PERTUMBUHAN EKONOMI DAN  
IMBANGAN PEMBAYARAN UNTUK ASEAN-5+3**

Oleh

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ASEAN-5+3 (Malaysia, Thailand, Philippines, Singapore, Indonesia, Jepun, Korea, dan China) telah mengalami liberalisasi yang ketara dalam perdagangan pada pertengahan 1980s. Volum ekport sebagai peratusan dalam KDNK semakin meningkat berikutan dengan perkembangan perindustrian ASEAN-5+3. Walaupun ekport telah membantu mempertahankan kadar pertumbuhan ekonomi yang cepat tetapi pada masa yang sama ia juga bergantung kepada import dari seluruh dunia terutamanya negara-negara industri. ASEAN-5+3 telah mengalami surplus pada tahun 2000 dan 2001, berbanding dengan defisit yang dialami beberapa tahun sebelum itu. Sesungguhnya, perkembangan ekport dan surplus dapat memanfaatkan ekonomi sesebuah negara seandainyaimbangan pembayaran surplus mengembang. Selama ini, tiada pertimbangan khas diberi ke atas kemungkinan bahawa kadar pertumbuhan ekonomi dipengaruhi oleh kadar pertumbuhan import yang boleh membebankan ekport dan pertumbuhan ekonomi. Tambahan pula, ia terdapat perhubungan yang nyata di antara kadar pertumbuhan denganimbangan



perdagangan yang terdapat dalam imbalan pembayaran; kadar pertumbuhan yang cepat sentiasa disusuli dengan imbalan perdagangan defisit dan sebaliknya. Dengan itu, analisis perlu dijalankan untuk menentukan samada imbalan perdagangan yang terdapat dalam imbalan pembayaran akan membebaskan kadar pertumbuhan sesebuah negara. Kajian ini menggunakan teknik panel sebagai kaedah analisis untuk menganggarkan kesan liberalisasi terhadap pertumbuhan ekport, pertumbuhan import dan imbalan pembayaran untuk ASEAN-5+3 berdasarkan hukum Thirlwall bagi tahun 1970-2003. Keputusan yang diperolehi menunjukkan liberalisasi dapat merangsang pertumbuhan ekport tetapi meningkatkan pertumbuhan import dengan lebih berbanding dengan pertumbuhan ekport untuk negara Jepun, Malaysia dan Korea. Antara semua, pertumbuhan ekonomi Indonesia didapati terhad kepada pasaran luar. Keseluruhannya, keputusan daripada pengkajian ini dapat memberi implikasi yang penting terhadap kesan dan kadar liberalisasi.

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I certify that an Examination Committee has met on 31<sup>th</sup> July 2007 to conduct the final examination of Yong Chen Chen on her Doctor of Philosophy thesis entitled “Trade Liberalization, Trade Flows and Economic Growth” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the student be awarded the degree of Doctor of Philosophy.

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## DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

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## LIST OF ABBREVIATIONS/ NOTATIONS/ GLOSSARY OF TERMS

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ARDL	Autoregressive-distributed lag
ASEAN-5 plus 3	includes only Malaysia, Thailand, Singapore, Philippines, Indonesia, Japan, China and Korea
ASEM	Asia-Europe meeting
BOP	Balance-of –payments
ERC	Economic Review Committee
FMOLS	Fully Modified Least Squares
FTAs	Free Trade Agreements
GDP	Gross Domestic Products
IMF	International Monetary Funds
MFN	Most Favoured Nation
NPL	Non-performing Loans
OECD	Organization for Economic Cooperation and Development
SOEs	State-owned Enterprises
TPPR	Three-Year Program for Promoting Regulatory Reform
WTO	World Trade Organization



# CHAPTER I

## Introduction

There are three main reasons why trade account of the balance of payments is important. First, the adverse long-run trends of exports and imports performance worsen the balance of payment which in turn will affect the real output and employment of an economy. Secondly, at the aggregate level, it is very difficult for a country to achieve a growth rate higher than the rate consistent with balance of payments equilibrium on trade account in the long run unless it can finance the ever going deficits. Thirdly, in the short run, trade deficits may be financed by high interest rates and in turn discourage investment which the growth of output ultimately depends. Therefore, trade account balance is not just a matter concerning the intertemporal allocation of resources for consumption, but may have negative externalities on society as a whole.

It is impossible to understand the economic performance without analyzing the trade performance. For many developed and less developed countries in the particular period, there is reason to believe that the ability to export to pay for full-employment imports has been a much more pervasive force determining the level of employment and growth experience (McCombie and Thirlwall, 1994). In the open economy, it is crucial to analyze the potential imbalance between export earnings and full-employment imports.

This study attempts to analyze the trade performance for ASEAN-5 plus 3 for several reasons. First, these countries are probably the most diverse compared to any regional



grouping across the globe. Diversity occurs in almost every aspect: historical background, political system, economic structure, religion, social and cultural dimensions. Therefore, the inclusion of China, Japan and Korea makes the findings more interesting and relevant in terms of economic comparison. Second, ASEAN-5 plus 3 have undergone a substantial trade liberalization. However, trade liberalization within the ambit of the WTO and APEC were not making substantial progress (ASEAN Secretariat, 2003). Third, the international trade volume has grown faster than income during the past thirty years for ASEAN-5 plus 3. Fourth, there is a trade-off between the trade balance and economic growth in ASEAN-5 plus 3.

### **Trade and Economic Performance in ASEAN-5 plus 3**

ASEAN-5 plus 3 have significant historical links with the world markets and world demand for ASEAN-5 plus 3 products had been an important factor in the development of these countries.

**Table1.1: Export of Goods and Services as a Percentage of GDP**

Country	1971-80	1981-90	1991-00	2001-2005
Japan	12	12.32	9.88	8.36
China	4.37	11.39	21.95	28.71
Singapore	113.08	138.28	135.66	146.98
Korea	26.85	34.5	34.17	39.98
Indonesia	24.44	24.63	31.78	33.77
Malaysia	45.66	59.03	96.27	116.34
Philippines	21.71	25.13	40.97	50.32
Thailand	19.95	26.86	46.32	66.81

Source: The World Bank's World development indicator, 2006



The export as a percentage of GDP has increased impressively in all ASEAN-5 plus 3 countries. Among the countries Singapore and Malaysia have the highest degree of trade openness while Japan and China can be said to be moderately open to trade. (see table 1.1).

In the 1980s, 70 to 80% of total export of Indonesia is primary commodities. Crude petroleum is the main primary export commodity for Indonesia. Two-thirds of the total exports for Malaysia is primary products, mainly rubber, palm oil, timber and iron ore. The primary export proportions 50-60% of total exports of Philippines and Thailand. The main primary exports for Philippines are sugar, coconut oil and copper and rice is the key primary export for Thailand. Singapore exports both primary and manufacturing products. The entrepot activity for primary products is most significant for Singapore and manufacturing exports have increase impressively since the 1970s.

In the 1980, the export of industrial products has grown steadily in ASEAN-5 plus 3. The major industrial export is chemicals, followed by basic manufactures, machines, transport equipment and miscellaneous manufactures. Malaysia remains as the world's major palm oil exporter and the exports of machines, transport equipment and miscellaneous manufactures goods have been growing rapidly since the early 1990. Thailand has been a major exporter of basic manufactures since 1980 followed by the exports of machines, transport equipment and miscellaneous manufactured goods.



The manufacturing sector in the ASEAN-5 plus 3 has grown at relatively high rates in the past thirty years (see table 2). In Malaysia and Thailand, the manufacturing accounted for 34.28% and 33.42% of GDP in 2000 respectively, up from the share of 12.23% and 16.03% in 1970. The share of manufacturing in GDP for Singapore, Indonesia and Korea increased from 20.44%, 11.64%, 20.91% in 1970 to 26.46%, 26.04%, 31.47% in 2006 respectively. There is only a marginal increase in the share of manufacturing in GDP for Japan and China from 37.48% and 32.7% in 1970 to 25.7% and 44.80% in 2006 respectively. The share of manufacturing in GDP in Philippines is still relatively low, at 22.75% in 2006.

Table 1.2 shows the changes in the composition of GDP across ASEAN-5 plus 3 since 1970. Agriculture's share of GDP has been declining for the past four decades in all countries. Conversely, industry's share of GDP has been increasing in all the countries. This portrays that ASEAN-5 plus 3 has been going through a rapid industrialization process in the last four decades or earlier and the agricultural sector shrink proportionately. Singapore, Korea and Malaysia were an early starter in manufacturing growth. The manufacturing share in GDP for China was the highest among the ASEAN-5 plus 3, that is more than 40% in 2000. Even Japan had only around 25% share in manufacturing. In terms of manufacturing, Indonesia had a much later start, some two decades behind Malaysia and Thailand.

**Table 1.2: Composition of GDP in the various sectors (%), 1970-2006**

Country	Agriculture					Industry(Manufacturing)				
	1970	1980	1990	2000	2006	1970	1980	1990	2000	2006
Japan	6.51	3.91	2.5	1.8	1.7	37.48	31.07	36.4	28.1	25.7
China	39.39	35.94	27.04	15.9	13.5	32.7	35.94	36.97	44.26	44.80
Singapore	2.32	1.32	0.37	0.14	0.08	20.44	28.59	27.1	26.48	26.46
Korea	26.88	12.71	8.51	4.62	4.10	20.91	28.52	28.83	31.47	38.50
Indonesia	47.15	24.84	19.41	16.92	17.47	9.33	11.64	20.66	26.04	25.01
Malaysia	28.52	21.91	15.22	8.58	9.5	12.23	20.64	24.22	34.28	30.71
Philippines	27.59	23.23	21.91	15.93	14.72	22.64	24.81	24.83	22.59	22.75
Thailand	28.29	25.38	12.5	9.11	9.01	16.03	19.63	27.2	33.42	29.06

Source: Key Indicators of Developing Asian and Pacific Countries, ADB, various issues

In the early stages, the dominant strategy of industrialization for almost all the ASEAN-5 plus 3 countries had been the production of consumer goods to substitute for imports. Through the period of the 1960s, Malaysia and Thailand followed the pattern of an import substitution strategy. There was a major shift towards the export sector in the 1970s. Unlike Malaysia and Thailand, the major source of industrial growth for Indonesia in both the 1960s and 1970s was import substitution. The Philippines had adopted the import-substitution strategy successfully in the period of 1950s and registered a high growth rates. However, the Philippines found itself faced with all the major problems inherent in such a strategy and despite attempts to break into the export market. In the case of Singapore, after its separations from the Federation of Malaysia in August 1965, the mild substitution industrialization program was replaced by a strategy that emphasized export-oriented industries. Over the last 15 years, the economies of ASEAN-5 plus 3 have become increasingly export-oriented. As such, the demand for imports particularly intermediate imports is increasing. Thailand, one of the ASEAN countries, had shifted from early import-substitution to export promotion. Import

substitution in Thailand in non-durable consumer goods and their inputs significantly contributed to industrial growth. However, the replacement of the importation of these commodities by domestic production practically come to an end by the early seventies. The strategy ceased to contribute to industrial growth with completion of its first stage import-substitution. Exports of processed goods including processed materials such as rubber and tin, and traditional processed foods, as well as textiles and clothing have been particularly important during the export expansion phase for ASEAN-5 plus 3 countries. The rise in export of manufactures was accounted basically by largely labor-intensive industries such as electrical machinery, footwear, clothing and textiles in the early seventies. Since the early 1970s, the tariff and tax disincentives for export industries have been partly offset by putting approval export producers on a free-trade basis, non-traditional export growth has come primarily from garments, electrical and electronic equipment and handicrafts.

Southeast Asian countries began to adopt export-oriented industrial strategies beginning with Singapore in the mid 1960s, followed by Malaysia, the Philippines and Thailand in the late 1960s and by Indonesia in the early 1980s. There are number of factors which responsible for the shift in policy orientation. Firstly, the import-substitution was generally poor due to direct resource cost ratios tend to be high in the manufacture of intermediate goods and consumer durables; discrimination that favor the import-substitution and against export hinders the development of manufactured exports; the increased need for foreign materials machinery and technological know-how had caused the net foreign exchange savings from import substitution decline quickly, and



consequently, the limitations in the availability of foreign exchange constrained economic growth. Secondly, the success of Singapore and South Korea in achieving rapid economic growth by adopting export-oriented industrialization strategies amidst a relatively free international trading environment until the late 1970s. This had provided an important example to the Southeast Asian countries. The Southeast Asian countries break into the export markets being vacated by the Newly Industrializing Economies which are Hong Kong, Singapore, South Korea and Taiwan. NIEs may develop export markets for low technology, unskilled labor-intensive products from the Southeast Asian countries similar with the relationship emerged between Japan and the present NIEs. Therefore, the NIEs may be viewed as being in an intermediate position that importing the low-technology relatively unskilled labor-intensive goods from the labor abundant Southeast Asian countries, and exporting their relatively more skill- and capital-intensive products to the developed countries which are more capital abundant. It has also been observed that intra-industry trade flows between Japan, NIEs and Southeast Asia are increasing and the trade relationship are growing stronger.

Observing the period 1980-2006, Singapore is experiencing surplus of current account since 1988 whereas Japan experiencing current account surplus since 1981. Furthermore, a deficit recorded for China was only in the year of 1985-1986, 1988-1989 and 1993. Meanwhile, Indonesia faced current account deficit in the year of 1980 to 1997. In addition, a deficit recorded for Thailand and the Philippines were in the year of 1980-1985, 1987-1997; 1980-1986, 1990-1997 for Malaysia; and 1980-1984, 1990-1992, 1994-1997 for South Korea. (International Financial Statistic, various issues).

South Korea, Malaysia, Philippines, Thailand and Indonesia were running huge surpluses in 2000 compared with large deficits just a few years earlier. The current surplus of Japan, China, Indonesia, South Korea, Malaysia and Singapore were widen as the relative strength of demand in some of their key export markets and the economies in the region continue to grow. The Philippines trade performance deteriorate in year 2002 as exports continue to struggle and inflows of workers' remittances underpin private consumption spending and thus, import growth. For Thailand, high global oil prices partly account for the strong growth in the import bill as Thailand's economy is heavily oil-intensive and the country imports 90% of its oil needs. (country outlook, The Economist Intelligence Unit)

ASEAN-5 plus 3 has experience significant structural changes. There has been a substantial and continuous decline in the share of agricultural in GDP. Meanwhile, the share of industry has increased. There have been important changes in the position of exports and imports since the 1960s. The main trends for exports are a rapid decline in the relative importance of agricultural, an increase in the importance of manufactures. An increase in manufactured exports in ASEAN-5 plus 3 is mainly due to the increase in processed foods, chemicals, electronics and various other manufactures. Textiles and clothing also grew in importance in Malaysia, Thailand and the Philippines. The share of machinery and transport equipment also assumed greater importance in ASEAN-5 plus 3.

**Table 1.3: Growth in Income and International Trade (Decades average of yearly rates)**

Decade growth rates of income, exports and imports <sup>1</sup>									
Country	1971-1980			1981-1990			1991-2000		
China	6.28	-	-	9.35	<b>12.12</b>	8.78	10.13	<b>17.51</b>	<i>16.9</i>
Korea	7.49	<b>21.56</b>	<i>15.5</i>	8.66	<b>11.22</b>	<i>11.20</i>	6.26	<b>15.75</b>	<i>11.9</i>
Indonesia	7.87	<b>9.50</b>	<i>17.8</i>	6.41	<b>1.43</b>	5.25	4.42	<b>7.75</b>	<i>6.65</i>
Malaysia	7.87	<b>8.06</b>	<i>11.2</i>	6.03	<b>10.67</b>	9.87	7.17	<b>12.52</b>	<i>12.3</i>
Philippines	5.93	<b>10.35</b>	<i>8.56</i>	1.80	<b>4.04</b>	<i>5.06</i>	2.88	<b>8.05</b>	<i>6.67</i>
Singapore	9.04	<b>25.53</b>	<i>26.93</i>	7.36	<b>9.13</b>	<i>10.55</i>	7.91	<b>9.87</b>	<i>9.04</i>
Thailand	6.89	<b>9.93</b>	<i>7.03</i>	7.89	<b>14.12</b>	<i>13.10</i>	4.62	<b>10.82</b>	<i>7.38</i>
Japan	4.50	<b>9.69</b>	<i>5.86</i>	4.10	<b>5.43</b>	<i>5.95</i>	1.42	<b>4.47</b>	<i>3.76</i>

1. Figures in bold denote exports, italics denote imports

Source: The World Bank's World development indicator, 2006

As shown in Table 1.3, the share of exports in GDP has also risen as the region became more industrialized. A greater reliance on exports has helped the region to sustain rapid growth rate but at the same time it has made region more dependent upon import demand from the rest of the world particularly the industrialized countries. Although export of goods and services as a percentage of GDP for ASEAN-5 plus 3 increased for the last decades, the value of imports as a percentage of GDP also followed an upward trend. Besides that, the international trade volume has grown faster than income during the past thirty years for ASEAN-5 plus 3.

Based on table 1.3, in the 1970s, Singapore registered annual growth rates of over 8% in GDP, while the others lagged behind. In the 1980s, China took over the leadership position. Korea, Singapore and Thailand each registered an average annual GDP growth of over 7% in the 1980s. In 1990s, China topped the list with an average growth rate of