



**UNIVERSITI PUTRA MALAYSIA**

**EXPORT EXPANSION IN MALAYSIA'S MANUFACTURING SECTOR:  
PROBLEMS AND PROSPECTS**

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By

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## TABLE OF CONTENTS

	<b>Page</b>
ACKNOWLEDGEMENTS .....	ii
LIST OF TABLES .....	vi
GLOSSARY .....	vii
ABSTRACT .....	ix
ABSTRAK .....	xii
<b>CHAPTER</b>	
<b>I</b>	
<b>INTRODUCTION .....</b>	<b>1</b>
Malaysia's Economic and Manufacturing Industry Development .....	3
Manufacturing Industry for Export .....	8
The Statement of the Problem .....	12
Objectives of the Study .....	17
<b>II</b>	
<b>LITERATURE REVIEW .....</b>	<b>19</b>
<b>III</b>	
<b>RESEARCH METHODOLOGY .....</b>	<b>48</b>
Introduction .....	48
The Economic Model .....	49
Model Specification	
Theoretical Model .....	61
Sampling Design .....	64
Data and Estimation Technique .....	65



IV	<b>EMPIRICAL RESULTS AND DISCUSSIONS</b> .....	67
	Introduction .....	67
	Regression Model for USA .....	69
	Regression Model for Singapore .....	72
	Regression Model for Japan .....	75
	Regression Model for Germany .....	77
	Regression Model for The Rest of the World .....	79
	General Determinants of Malaysia's Manufactured Exports .....	81
	Simulation Analysis .....	
	Effects of an Increase in FDI .....	84
	Effects of an Increase in Labour Productivity .....	86
	Effects of an Increase in Labour Wage .....	88
	Effects Of an Depreciation in Exchange Rate .....	90
	Effects Of a Reduction in Tariff .....	92
	Effects Of an Increase in GDP .....	94
	Effects Of an Increase in Export Price .....	96
	General Determinants Of the Simulation Analysis .....	98
V	<b>CONCLUSIONS AND RECOMMENDATIONS</b> .....	100
	Summary .....	100
	Prospects for Export Expansion .....	104
	Export Expansion Through Increased FDI .....	104
	Export Expansion Through Increased LP .....	106
	Export Expansion Through Decreased LW .....	110
	Export Expansion Through Stable ER .....	111
	Export Expansion Through Tariff Reductions .....	114
	Export Expansion Through GDP .....	117
	Export Expansion Through EP .....	119
	Suggestions for Future Research .....	122
	<b>BIBLIOGRAPHY</b> .....	124
	<b>APPENDIX</b> .....	130
	<b>VITA</b> .....	141



## LIST OF TABLES

Table	Page
1.1 Manufacturing Share in the Malaysian Economy (1970 - 1995) .....	5
1.2 Sectoral Share of Gross Domestic Product Malaysia In Constant 1978 Prices (In Percentage) .....	7
1.3 Gross Manufacturing Exports by Major Groups (1970 - 1995) .....	10
1.4 Principal Markets for Manufacturing Exports From 1990 Until 1995 (RM Million) .....	11
4.1 Average Simulated Values of Endogenous Variables Without and With a FDI Increase ( RM Million ) .....	85
4.2 Average Simulated Values of Endogenous Variables With and Without an Increase in Labour Productivity ( RM Million ) .....	87
4.3 Average Simulated Values of Endogenous Variables Without and With an Increase in Labour Wage ( RM Million ) .....	89
4.4 Average Simulated Values of Endogenous Variables Without and With a Depreciation of The Malaysian Ringgit ( RM Million) .....	91
4.5 Average Simulated Values of Endogenous Variables With and Without Tariff Reductions ( RM Million) .....	93
4.6 Average Simulated Values Of Endogenous Variables With and Without a GDP Increase ( RM Million ) .....	95
4.7 Average Simulated Values Of Endogenous Variables With and Without a Export Price Increase (RM Million) ... ..	97



## **GLOSSARY**

The Glossary presents a detailed description of the variables used in the study.

<b>3SLS</b>	<b>=</b>	<b>Three Stage Least Squares</b>
<b>AFTA</b>	<b>=</b>	<b>Asean Free Trade Area</b>
<b>APEC</b>	<b>=</b>	<b>Asia Pacific Economic Cooperation</b>
<b>CEPT</b>	<b>=</b>	<b>Common Effective Preferential Tariff</b>
<b>DW</b>	<b>=</b>	<b>Durbin Watson</b>
<b>EP</b>	<b>=</b>	<b>Export Price</b>
<b>EX</b>	<b>=</b>	<b>Exports</b>
<b>ER</b>	<b>=</b>	<b>Exchange Rate</b>
<b>EU</b>	<b>=</b>	<b>European Union</b>
<b>FDI</b>	<b>=</b>	<b>Foreign Direct Investment</b>
<b>FOB</b>	<b>=</b>	<b>Freight On Board</b>
<b>GATT</b>	<b>=</b>	<b>General Agreements On Tariff And Trade</b>
<b>GDP</b>	<b>=</b>	<b>Gross Domestic Product</b>
<b>GSP</b>	<b>=</b>	<b>Generalized System Of Preferences</b>
<b>IBM</b>	<b>=</b>	<b>International Business Machines</b>
<b>ICI</b>	<b>=</b>	<b>International Chemicals Limited</b>
<b>KOTRA</b>	<b>=</b>	<b>Korean Trade Corporation</b>





LP	=	Labour Productivity
LW	=	Labour Wage
MEXDO	=	Malaysian Export Trade Centre
MFN	=	Most Favoured Nation
MIDA	=	Malaysian Industrial Development Authority
MITI	=	Ministry Of International Trade And Industry
NAFTA	=	North American Free Trade Area
NTM	=	Non Tariff Measures
NWC	=	National Wage Council
OECD	=	Organization Of Economic Cooperation And Development
PPP	=	Purchasing Power Parity
ROW	=	Rest Of The World
SUR	=	Seemingly Unrelated Regression
T	=	Tariff
TEL	=	Temporary Exclusion List
TFP	=	Total Factor Productivity
USA	=	United States Of America
WTO	=	World Trade Organization

**Abstract of thesis submitted to the Senate of Universiti Putra Malaysia in partial fulfillment of the requirements for the degree of Masters of Science.**

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**By**

**BRAHMANANTHAN A/L THAMBUSAMY**

**JANUARY 1998**

**Chairman : Associate Professor Ahmad Zubaidi Baharumshah , Ph.D.**

**Faculty : Economics and Management**

**Manufacturing industry for export has made a remarkable catalyst for export expansion in many developing countries. In the last two decades, the manufacturing sector in Malaysia underwent the most rapid economic growth. In the year 1996, it accounted for nearly 75% of Malaysia's total exports. However Malaysia's manufacturing industry is facing problems in terms of export expansion. The structural problems encountered are in terms of languishing labour productivity, high tariff imposition on manufactured goods by designated markets, unstable exchange rate, increasing labour wage and, the flow of foreign direct investment into Malaysia.**



The theoretical model of Malaysia's exports of manufactured goods is based on the demand and supply theory. The exports of Malaysia's manufactured goods are the excess supply function in the international market. This excess supply function is hypothesized to be influenced by export price, labour productivity, exchange rate, tariff, labour wage, foreign direct investment and the importing nation's Gross Domestic Product. Five equations were formulated based on Malaysia's principal export markets of manufactured goods, which are the USA, Singapore, Japan, Germany and the Rest of the World. The equations were estimated by the Seemingly Unrelated Regression method in double log form. It was found that 70% of the coefficients for the five equations were significant. The five equations or the model as a whole, performed well. On the experimentation of simulation analysis, changes in the values of the variables of export price, labour productivity, labour wage, exchange rate, foreign direct investment and Gross Domestic Product greatly influenced the exports of manufactured goods. Only tariff showed minimum influence on the exports. The results indicate improvements in exporting price, labour productivity, foreign direct investment and importing nations Gross Domestic Product will increase Malaysia's exports of manufactured goods in the future. Decrease in labour wage and tariff will simulate the exports. Whereas an

**appropriate exchange rate will not discriminate against the exports of manufactured goods to the international market.**

Abstrak thesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi sebahagian daripada syarat - syarat untuk mendapatkan Ijazah Masters Sains.

**PERKEMBANGAN EKSPORT DALAM INDUSTRI PEMBUATAN  
MALAYSIA : MASALAH DAN PROSPEK.**

**Oleh**

**BRAHMANANTHAN A/L THAMBUSAMY**

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Industri pembuatan merupakan penggalak kepada perkembangan eksport di kebanyakan negara sedang membangun. Sejak dua dekad kebelakangan ini, industri pembuatan Malaysia mengalami perkembangan hebat berbanding sektor- sektor lain. Pada tahun 1996, eksport barangan pembuatan merangkumi 75% daripada nilai keseluruhan eksport Malaysia. Walaubagaimanapun, industri pembuatan mengalami masalah dari aspek perkembangan eksportnya. Masalah - masalah yang dihadapi adalah produktiviti buruh yang menurun, pengenaan tarif tinggi oleh negara-negara pengimport, kadar pertukaran yang tidak stabil, peningkatan dalam upah buruh dan aliran kemasukkan pelaburan asing ke dalam industri pembuatan.

Model teoritikal eksport barangan pembuatan Malaysia berdasarkan teori permintaan dan penawaran. Eksport barangan pembuatan Malaysia dihipotesiskan bergantung kepada harga eksport, produktiviti buruh, kadar pertukaran, tarif, upah buruh, pelaburan asing dan Keluaran Dalam Negara Kasar negara pengimport. Lima persamaan telah dibentuk berdasarkan pasaran utama eksport barangan pembuatan Malaysia iaitu Amerika, Singapura, Jepun, Jerman dan “negara - negara pengimport lain”. Di dapati 70% daripada parameter untuk lima persamaan yang dibentuk diatas adalah signifikan. Secara keseluruhan model yang dibentuk baik dalam menerangkan eksport barangan pembuatan Malaysia. Untuk kajian simulasi, perubahan dalam nilai-nilai harga eksport, produktiviti buruh, upah buruh, kadar pertukaran, pelaburan asing dan Keluaran Dalam Negara Kasar amat mempengaruhi nilai eksport barangan pembuatan Malaysia. Walau bagaimanapun, perubahan dalam nilai tarif mempengaruhi eksport pada kadar yang minimum. Keputusan yang diperolehi menunjukkan, kemajuan dalam harga eksport, produktiviti buruh, kemasukkan pelaburan asing dan pertambahan Keluaran Dalam Negara Kasar negara pengimport dapat menambahkan eksport barangan pembuatan Malaysia. Manakala pengurangan dalam kadar tariff dan upah buruh pula menambahkan

**eksport barangan pembuatan Malaysia. Manakala kadar pertukaran yang stabil akan membawa kepada perkembangan eksport barangan pembuatan Malaysia.**

# **CHAPTER I**

## **INTRODUCTION**

Since the mid to late 1960's manufacturing industry for export and economic development has made its appearance in a growing number of less developed countries. Economies that embarked on an outward oriented industrialization most notably Hong Kong, Taiwan, Singapore, Thailand and Puerto Rico have led these countries to economic prosperity. Export oriented manufacturing has lead these countries to reduce their dependence on unstable primary product export. Primary commodities price fluctuation in the international market was one of the main factors that led these countries to promote domestic industrialization. This is to make these countries to have stable earnings from their export and, contribute to their domestic economic development. Manufacturing industry for export was the better suited policy compared to the import substituting industrialization, which is usually constrained by limited domestic market. With the manufacturing industry for export ,the industrialization sector can grow faster than domestic demand which will eventually make valuable foreign exchange, creating jobs, increasing home productivities and enhancing technological adaptations.





The growth of export oriented manufacturing is heavily dependent on Foreign Direct Investment (FDI). Developing countries particularly, lack the necessary capital for industrial development. Most of the foreign direct investment are done by Multinational Companies (MNC's). These MNC's companies basically set up the production plants or management firms in the developing countries. This is done through joint agreement or partnership with domestic firms, or having 100 percent investment in a particular field. Investment is done in the domestic market because of low production cost, tariff evasion and, expansion of their market base. These MNC's like Daewoo, International Business Machines (IBM), Motorola, Siemens Nixdroff and, International Chemicals Limited (ICI) have set up firms or production plants in European Union, Southeast Asia, Latin America and North America. The host countries in many ways have found that, the manufacturing industry is one of the major contributors towards export expansion policies. Development strategies and government policies towards manufacturing industry are very encouraging with investment motivation and tax evasion.

## **Malaysia's Economic And Manufacturing Industry Development**

Malaysia's economic development since the independence has been impressive. Real growth rates averaged about 6% in the 1960's, surging to 8% in the 1970's and decelerating to around 5.5% in the 1980's. The 1990's saw a tremendous robust growth of 8% up to 1996 (The Seventh Malaysia Plan). The main impetus for this growth came from the industrialization policy adopted by the government during the 1980's.

However during the 1980's, the nation faced the escalating debt crisis and decreasing productivity level. For the first time, in 1985 Malaysia recorded a negative economic growth rate. Thus, from 1985 onwards, the government refocused its strategy in order to reduce the role of public sector that included the privatization of state owned enterprises. The problems confronted were to be solved through the manufacturing export growth strategy. After the year 1985, the manufacturing industry for export was the main impetus for economic reform.

The manufacturing sector underwent the most rapid growth among all major economic sectors. As shown in Table 1.1, between 1970 and 1980 manufacturing output expanded at an annual average of 12.0% compared to total output growth of 7.8%. Exports grew even faster at 25.9% while, manufacturing employment grew at 9.6% between 1970 and 1980. Whereas, between the years 1980 and 1990 the manufacturing output expanded at an average annual rate of 14.4%, compared to total output growth of 7.8%. Employment in the manufacturing sector grew at an average annual rate of 12.0% during this period. Between the years 1990 and 1995 the manufacturing share in the economy grew at a remarkable rate. Output of the manufacturing sector grew at 13.3%, overtaking GDP growth which stood at 8.0% only. Whereas, total manufacturing exports and manufacturing employment grew at an average annual rate of 25% and 7.5% respectively during this period.

Table 1.1 Manufacturing Share In The Economy

Year	(RM Million :1978 Price)		(RM Million :Current Price)		('000)	
	GDP	Manufacturing Output	Total Exports	Manufacturing Exports	Total Employment	Manufacturing Employment
1970	20,924	2,805	5,020	612	3,340	301
1971	22,127	3,159	4,884	507	3,467	326
1972	24,205	3,430	4,736	608	3,559	353
1973	27,073	4,624	7,263	1,112	3,735	382
1974	29,286	4,706	10,002	1,684	3,877	414
1975	29,251	4,845	9,057	1,978	4,020	448
1976	32,394	5,741	13,330	2,742	4,736	623
1977	35,488	7,189	16,932	3,640	4,542	665
1978	37,886	7,256	17,009	3,940	4,645	678
1979	41,428	8,004	24,060	4,884	4,817	689
1980	44,512	8,742	28,013	6,101	5,031	755
1981	47,602	9,155	26,900	6,302	5,165	787
1982	50,403	9,668	27,946	7,417	5,429	799
1983	53,582	10,428	31,452	9,554	5,565	841
1984	57,741	11,711	38,452	12,164	5,625	879
1985	57,150	11,263	37,576	12,111	5,707	855
1986	57,859	12,111	35,373	15,329	5,881	861
1987	60,929	15,732	44,612	20,216	5,981	921
1988	66,258	16,151	54,596	27,085	6,608	1,013
1989	71,294	18,251	67,247	36,592	6,279	1,090
1990	79,155	21,323	79,646	47,143	6,621	1,290
1991	85,923	24,628	95,665	61,286	6,848	1,374
1992	93,264	28,207	111,574	78,740	7,060	1,448
1993	100,838	30,324	121,214	89,666	7,396	1,742
1994	109,368	34,459	148,011	114,773	7,618	1,877
1995	118,712	38,719	179,760	143,466	7,832	1,977
Growth Rate (Percent) :						
1970-1980	7.8	12.0	18.8	25.9	3.7	9.6
1980-1990	7.8	14.4	18.4	24.2	4.8	12.0
1990-1995	8.0	13.3	24.4	25.0	3.1	7.5

Source : Ministry of Finance Annual Report, Various Issues.

As a result of this unprecedented expansion, the manufacturing sector currently accounts for about a quarter of GDP, i.e. about half of the total exports and about 17% of the total employment (1996). These achievements have far outgrown those projected growth under the Sixth Malaysia Plan 1990 - 1995 and the Industrial Master Plan. The growth in the manufacturing sector is expected to continue at a double digit for the next few years. Its contributions to the overall growth in 1996 was estimated at 51.6%.

In Table 1.2, it is clear that the sectoral share of the GDP of Malaysia for the manufacturing sector has grown steadily. Only for the year 1985 has there been a slight dip, where it stood at 19.8% of the GDP. For the year 1970 it stood at 13.1% and increased to 33.1% by the year 1995. This clearly reveals that, the manufacturing industry has far outgrown other sectors in the economy in Table 1.2. Currently, manufacturing industry is the most important sector in Malaysia, accounting for 48% of the GDP growth for the year 1995.

**Table 1.2 : Sectoral Share Of Gross Domestic Product Malaysia In Constant 1978 Prices ( In Percentage).**

<u>Sectors</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Agricultural, Livestock, Forestry & Fisheries	30.6	28.4	23.4	20.8	19.1	13.6
Mining And Quarrying	6.5	4.7	10.3	10.5	9.7	7.4
Manufacturing	13.1	16.8	20.5	19.8	24.8	33.1
Construction	3.9	3.9	4.7	4.8	3.4	4.4
Electricity, Gas And Water	2.7	2.2	1.5	1.7	1.9	2.3
Transport, Storage And Communication	4.1	6.3	5.8	6.4	6.7	7.3
Wholesale, Retail, Trade, Hotels And Restaurants	14.5	13.1	12.4	12.2	10.9	12.1
Finance, Insurance, Real Estate And Business Services	6.2	8.7	8.5	9.0	9.5	10.7
Government Services	6.9	13.1	10.5	12.3	10.6	9.7
Other Services	2.8	2.3	2.3	2.1	2.1	2.0
Total :	100.0	100.0	100.0	100.0	100.0	100.0

**Source : Ministry of Finance, Economic Report, Various Issues.**

## **Manufacturing Industry for Export**

Manufacturing industry for exports gained highlight during the Fifth Malaysia Plan. Strategies were formulated for an outward looking manufacturing sector in which our domestic demand was too small to cater for the large output of the goods. Export expansion in the manufacturing industry is meant to export more of our manufacturing goods to the international market in terms of volume and also value. The primary focus to achieve this is through the production of high quality goods and meeting the consumers taste and preferences. Thus, there will be an increase of sales in the manufactured goods to the international market. This directly relates to efforts by the government to improve the marketing of exports in order to penetrate not only to the traditional export markets, but also to extent exports to new markets such as Eastern Europe, Middle East Countries, Newly Industrialized Countries and a large part of the developing countries in the African Region. Many existing government institutions like Malaysian Industrial Development Authority (MIDA), Malaysian Export Trade Centre (Mexdo) and, the Ministry of International Trade And Industry (MITI) are involved in formulating policies and strategies for promoting exports.

The export expansion has enabled Malaysia to capture a large share of the international market of manufactured goods in time to come. Based on Table 1.3 of manufactured goods for export, there has been an overall increment of manufactured goods exports to the international market by every sub sector. During the year 1975, the total export was only RM 1,978 million but, by the year 1995, it stood at RM 147,524 million. This is a very large increment in terms of export. Referring to the Table 1.3, there has been a significant jump in the exports of manufactured goods after 1985 crisis when Malaysia recorded a negative economic growth rate. After the year 1985, exports of manufactured goods in each sub sector “leap frogged” more than double. Manufactured goods recorded a ten fold increase in exports from the year 1985 to 1995. The share of manufactured exports to the total exports increased from 58.8% in 1990 to 79.6% in 1995. By the year 1995, the principal source of export earnings was electrical and electronics, with a share of 65.7% of the manufactured exports. This indicates a significant contribution of the exports of semiconductors, electrical appliances and telecommunications products.



**Table 1.3 Gross Manufacturing Exports By Major Groups (1970 Until 1995)**

<u>Sectors</u>	<u>(RM MILLION)</u>				
	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Food, Beverages And Tobacco	270	475	594	2,061	3,629
Textiles, Clothing And Footwear	218	806	1,289	3,097	6,473
Wood Products	205	467	363	1,347	3,305
Rubber Products	43	84	133	1,353	3,305
Non Metallic Mineral Products	185	361	1,412	771	1,677
Chemicals And Petroleum Products	23	61	150	2,753	9,453
Iron, Steel And Metal Manufacturers	49	161	300	1,577	4,695
Electrical And Electronic Appliances	304	2,822	6,028	26,502	96,886
Other Machinery And Transport Equipment	269	407	1,301	1,928	5,251
Others	412	447	831	4,639	11,196
<b>Total :</b>	<b>1,978</b>	<b>6,101</b>	<b>12,111</b>	<b>46,835</b>	<b>147,524</b>

**Source : Ministry Of Finance, Annual Report, Various Issues.**