



**UNIVERSITI PUTRA MALAYSIA**

**THE ECONOMIC IMPACT OF SAWNTIMBER EXPORT LEVY  
REMOVAL ON THE PENINSULAR MALAYSIA'S ECONOMY**

**AHMAD FAUZI BIN PUASA.**

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**By**

**AHMAD FAUZI BIN PUASA**

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

**February 2005**



Dedicated to:

My wife and four children



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

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**Faculty: Economics and Management**

The global demand for wood-based products will continue to grow in line with increasing population and economic development especially in many developing countries. Despite this reason, the production of this primary industry has declined slowly in the last decade. The Malaysian wood-based supply has faced a deficit starting from 1995; from there on, wood-based products moved from a state of resource surplus to one of deficit in Malaysia. Realizing the problem of the supply of raw materials faced by the local furniture manufacturing industries, the Malaysian Government has imposed an export levy on wood-based products including sawntimber. This is to ensure an adequate supply of raw materials for the local manufacturers. However, the imposition of the export levy has indirectly suppressed the domestic wood market prices, which has eventually reduced the sawmillers' income. The Government has overlooked this root problem faced by the sawmilling industry, i.e. the suppression of domestic prices. If the Government is not sensitive to this problem, the sawmilling industry will eventually shrink due to insufficient supply of raw materials, in spite of the export levy. Based on this problem, the main objective of this study is to determine the effects of the sawntimber export levy removal and its implication on the Peninsular Malaysian economy.



There are two types of model used for this study: an econometric model to determine the net welfare economic impacts, and an input-output model to investigate the total economic impacts resulting from sawntimber export levy removal on the Peninsular Malaysian economy.

The empirical study from the econometric model shows that there is net positive social welfare economic impact on the society resulting from the sawntimber export levy removal. In fact, the input-output analysis manages to compute the total output, income and employment impacts on the Peninsular Malaysian economy as a result of the sawntimber export levy removal. Thus the removal of sawntimber export levy contributes significantly to the Peninsular Malaysian economy.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan mendapatkan Ijazah Doktor Falsafah

**IMPAK EKONOMI TERHADAP CUKAI EXPORT KAYU GERGAJI KEPADA  
EKONOMI SEMENANJUNG MALAYSIA**

Oleh

**AHMAD FAUZI BIN PUASA**

**Februari 2005**

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Permintaan barang-barang berasaskan kayu secara global meningkat secara berterusan disebabkan oleh peningkatan bilangan penduduk dan pembangunan ekonomi terutamanya bagi negara yang sedang membangun. Disebalik masalah ini, pengeluaran berasaskan kayu telah menurun secara perlahan bagi dekat yang lalu. Penawaran berasaskan kayu Malaysia telah mengalami kekurangan mulai pada tahun 1995; sejak masa ini dan seterusnya, penawaran industri berasaskan kayu yang berlebihan telah bertukar kepada kekurangan penawaran di Malaysia. Menyedari masalah kekurangan pembekalan bahan mentah yang diperlukan oleh industri perabut, kerajaan Malaysia telah mengenakan cukai export kepada barang-barang berasaskan kayu termasuk kayu gergaji untuk di export keluar Negara. Ini adalah langkah kerajaan untuk memastikan pembekalan barang-barang mentah mencukupi bagi industri berasaskan kayu tempatan. Walaubagaimana pun mengenakan cukai export barang-barang berasaskan kayu telah mengurangkan harga barang-barang berasaskan kayu tempatan, dimana secara langsung mengurangkan pendapatan pengeluar kayu gergaji. Kerajaan agak terlupa masaalah akar umbi yang dialami oleh pengilang kayu gergaji. Ini adalah masalah penekanan

kepada harga kayu gergaji tempatan. Jika kerajaan tidak peka pada masalah ini, industri pengeluar ini akan mengecut dan menyebabkan kekurangan penawaran disebabkan tindakan mengenakan cukai export. Berasaskan masalah ini, objektif utama kajian ini ialah untuk menentukan kesan menghapuskan cukai export kayu gergaji dan implikasinya terhadap ekonomi Semenanjung Malaysia.

Dua jenis model telah pun digunakan untuk kajian ini: model ekonometrik telah digunakan untuk mengira welfare impak terhadap masyarakat dan model input-output telah digunakan untuk mengukur jumlah impak ekonomi keatas Semenanjung Malaysia sekiranya cukai kayu gergaji di tarikbalik.

Hasil kajian ilmiah telah dibuat dan analisa model ekonometrik telah mendapati bahawa terdapat lebihan welfare impak sekiranya cukai kayu gergaji di hapuskan. Malah dari hasil analisa model input-output juga telah mendapati bahawa jumlah output, pendapatan dan bilangan pekerjaan juga bertambah. Ini bermakna pengurangan cukai export kayu gergaji akan menyumbang kepada pertumbuhan ekonomi masyarakat Semenanjung Malaysia.

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## TABLE OF CONTENTS

	<b>Page</b>
<b>ABSTRACT</b>	<b>iii</b>
<b>ABSTRAK</b>	<b>v</b>
<b>ACKNOWLEDGEMENTS</b>	<b>vii</b>
<b>APPROVAL</b>	<b>x</b>
<b>DECLARATION</b>	<b>xii</b>
<b>LIST OF TABLES</b>	<b>xviii</b>
<b>LIST OF FIGURES</b>	<b>xx</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xxiii</b>
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	<b>1.1</b>
1.1 Background	1.1
1.2 Importance of Malaysian Wood-based Industry	1.9
1.2.1 The Forested Area	1.9
1.2.2 Production of Wood-based Products	1.12
1.2.2.1 Malaysian Production of Wood-based Products	1.12
1.2.2.2 World Production of Wood-based Products	1.14
1.2.3 Consumption of Wood-based Products	1.15
1.2.4 Export of Wood-based Products	1.16
1.2.4.1 Wood-based Products Composition	1.17
1.2.4.2 Export Volume	1.18
1.2.4.3 Export Value	1.20
1.2.4.4 Wood-based Products Trade Direction	1.22
1.2.4.5 World Demand for Wood-based Products	1.31
1.2.5 Prices of Wood-based Products	1.32
1.2.5.1 Export Prices	1.32
1.2.5.2 Domestic Prices	1.35
1.2.6 Policies Related to Forestry	1.36
1.2.6.1 The Third National Agricultural Policy, 1998-2010 (NEP3)	1.36
1.2.6.2 The Industrial Master Plans 1 (1986-1995) and 2 (1996-2005) (IMP 1&2)	1.38
1.2.6.3 The National Forestry Policy	1.40
1.2.6.4 Sawntimber Export Levy Policy	1.42
1.3 Definition of Terms	1.44
1.4 Problem Statement	1.46
1.5 Objectives of the Study	1.51
1.6 Importance of the Study	1.52



1.7	Outline of Thesis	1.54
<b>2</b>	<b>LITERATURE REVIEW</b>	<b>2.1</b>
2.1	Forestry and Export Levies	2.1
2.1.1	Pattern of Export Levies/Duties	2.4
2.1.2	Malaysian Trade Barriers on Wood-based Products	2.5
2.1.3	Export Levy	2.7
2.1.4	Theories Related to Export Levy	2.11
2.1.5	The Welfare Effect Due to Trade Liberalization (Removal of the Export Levy)	2.14
2.2	A Brief Overview of Input-Output Modelling	2.16
2.2.1	Selected Previous Input-output Studies on Forestry	2.17
2.2.2	Why Input-output Model is Used in This Impact Study	2.21
<b>3</b>	<b>METHODOLOGY</b>	<b>3.1</b>
3.1	The Theoretical Framework	3.2
3.1.1	Direct Effect	3.2
3.1.2	Welfare Effect	3.4
	Sawntimber Export	3.5
	Sawntimber Production	3.6
	Sawntimber Domestic Consumption	3.7
	Producer Surplus	3.8
	Consumer Surplus	3.9
	Government Revenue	3.10
	Gain to the Society	3.11
	Summary of Direct Welfare Economic Impact	3.12
3.2	The Model	3.13
3.2.1	Econometric Model	3.14
3.2.1.1	Supply of Sawntimber	3.16
	3.2.1.1.1 Plantation Forest (Rubber Estate)	3.16
	3.2.1.1.2 Natural Forest Sawntimber Supply	3.17
3.2.1.2	Demand for Sawntimber	3.18
	3.2.1.2.1 Export Demand	3.18
	3.2.1.2.2 Domestic (Local) Demand	3.19
3.2.1.3	Closing Identities	3.20
	3.2.1.3.1 Sawntimber Total Supply	3.20
	3.2.1.3.2 Total Excess Sawntimber Supply	3.20
	3.2.1.3.3 Export Price is Equal to Domestic Price Plus Export Levy	3.21

3.2.2	Input-Output Model	3.21
3.2.2.1	Basic Assumptions of the Input-Output Model	3.22
3.2.2.2	Testing the Validity of Technical Coefficient	3.24
3.2.2.3	The General Concept of the Input-output Model	3.25
3.3	Data Collection and Computer Procedures	3.37
3.4	Conclusion	3.39
<b>4</b>	<b>ANALYSIS OF RESULTS</b>	<b>4.1</b>
4.1	Econometric Analysis	4.1
4.1.1	Unit Root Test on Time Series Data	4.2
4.1.2	Sawntimber Supply and Demand Model	4.4
4.1.2.1	Estimated Natural Forest Sawntimber Supply Equation	4.4
4.1.2.2	Estimated Rubberwood Sawntimber Supply Equation	4.7
4.1.2.3	Estimated Sawntimber Export Demand Equation	4.9
4.1.2.4	Estimated Sawntimber Domestic Demand Equation	4.11
4.1.3	Long-Run Relationships for Demand and Supply	4.13
4.1.4	The Sawntimber Export Levy Partial Market Equilibrium Model	4.15
4.1.5	Simulation on the Sawntimber Export Levy Model	4.16
4.1.5.1	Effect of 25 Percent Reduction in the Sawntimber Export Levy	4.17
4.1.5.2	Effect of 50 Percent Reduction in the Sawntimber Export Levy	4.19
4.1.5.3	Effect of 75 Percent Reduction in the Sawntimber Export Levy	4.21
4.1.5.4	Effect of the Removal of the Sawntimber Export Levy (No Export Levy)	4.22
4.1.5.5	Summary of the Effect of Removal of the Export Levy	4.24
4.1.6	Validation of the Sawntimber Export Levy Model	4.27
4.1.7	Welfare Economic Impact	4.29
4.2	Input-Output Analysis	4.31
4.2.1	Structure of the Malaysian Economy from the Input-Output Perspective	4.31
4.2.2	Interdependence between the Sawntimber Sector and Other Sectors (Open Input-Output System)	4.38
4.2.3	Interdependence Between the Sawntimber Sector and Other Sectors (Closed Input-Output System)	4.42

4.2.4	Output Multiplier for Sawntimber and Related Wood-based Sectors	4.47
4.2.5	Income Multiplier for Sawntimber and Related Wood-based Sectors	4.49
4.2.6	Employment Multiplier for Sawntimber and Related Wood-based Sectors	4.50
4.2.7	Impact on the Malaysian Economy by the Sawntimber Export Levy Removal	4.52
4.2.7.1	Total Output Impact	4.52
4.2.7.2	Total Income Impact	4.62
4.2.7.3	Total Employment Impact	4.64
4.2.8	Economic Impact Using Partial and General Equilibrium Analysis	4.65
<b>5</b>	<b>CONCLUSION AND POLICY IMPLICATIONS</b>	<b>5.1</b>
5.1	Summary and Conclusion	5.1
5.2	Policy Implications	5.5
5.3	Limitations of the Study	5.9
5.3.1	Econometric Impact Study	5.9
5.3.2	Input-Output Impact Study	5.10
5.4	Future Research Direction	5.11
	<b>REFERENCES</b>	<b>R.1</b>
	<b>APPENDICES</b>	
I	Wood-based Products Products Trade Direction 2002 ('000m <sup>3</sup> , RM'000)	A.1
II	Absorption Matrix, Domestic Production at Basic Value1991, Commodity x Commodity (RM Thousand)	A.2
III	Result of Simulation Analysis for Sawntimber Export Levy Reduction by 25 Percent	A.53
IV	Result of Simulation Analysis for Sawntimber Export Levy Reduction by 50 Percent	A.54
V	Result of Simulation Analysis for Sawntimber Export Levy Reduction by 75 Percent	A.55
VI	Result of Simulation Analysis without Sawntimber Export Levy Reduction	A.56
	<b>BIODATA OF THE AUTHOR</b>	<b>B.1</b>



## LIST OF TABLES

Table	Page
1.1 Malaysia: Gross Domestic Product by Industry of Origin (in 1987 constant price in percentage)	1.3
1.2 Malaysia: Employment by Sector (Percentages)	1.5
1.3 Malaysia: Share of Value Added of Manufacturing Sector by Industry	1.6
1.4 Export of Manufactured Goods, (1995-2000) (RM million)	1.8
1.5 Forested Land Areas of Peninsular Malaysia	1.10
1.6 Annual Coupes of the Permanent Reserve Forest, Peninsular Malaysia (ha)	1.11
1.7 Production of Wood-based Products ('000 m <sup>3</sup> ) (1970-2002)	1.13
1.8 Total Export Value of Selected Wood and Wood-based Products in Year 2002	1.18
1.9 Total Malaysian Export of Furniture in Year 2002	1.23
1.10 Total Malaysian Export of Plywood in Year 2002	1.25
1.11 Total Malaysian Export of Sawntimber in Year 2002	1.26
1.12 Total Malaysian Export of Logs in Year 2002	1.28
1.13 Total Malaysian Export of Veneer in Year 2002	1.29
1.14 Total Malaysian Export of Mouldings in Year 2002	1.30
1.15 Malaysia: List of Important Priority and Product Groups for Development and Export	1.39
1.16 Imposition of Export Levies and Quotas on Selected Species of Malaysian Sawntimber & Veneer for Peninsular Malaysia	1.49
2.1 Examples of Usage of Terminology for Export Duties	2.3



2.2	Countries Applying Export Levies/Duties by Region	2.4
2.3	Summary of Countries Imposing Export Levy	2.5
2.4	Elasticities of Substitution for Selected Wood-based Products	2.6
2.5	Export Tariff Rates for Logs, Sawntimber and Plywood (Percentage)	2.8
2.6	Comparative Study of Four Forecasting Techniques	2.26
3.1	Top Ranks (First Ten Positions) of the Sectors for the Two Periods, 1983-1987 and 1987 - 1991	3.25
3.2	Inter-Industry Matrix of an Input-output Model	3.26
3.3	Description of 92 Commodities in the Malaysian Economy 1991	3.30
4.1	Unit Root Test Results	4.3
4.2	Estimated Natural Forest Sawntimber Supply	4.5
4.3	Estimated Rubberwood Sawntimber Supply	4.7
4.4	Estimated Sawntimber Export Demand	4.9
4.5	Estimated Sawntimber Domestic Demand	4.11
4.6	F-Statistics for Testing the Existence of a Long-Run Relationship	4.14
4.7	The Sawntimber Export Levy Model	4.15
4.8	Average Simulation Values of Production, Export, Domestic Demand and Prices of Sawntimber wth and without Export Levy 1990-1998	4.25
4.9	Historical Simulation of Sawntimber Model	4.28
4.10	Average Welfare Impacts Due to Sawntimber Export Levy (1990-1998, RM)	4.29
4.11	Technical Coefficients of Important Sectors Related to Wood-based Industries	4.35



4.12	Selected Interdependent Coefficients for the Sawntimber and Other Related Wood-based Industries (Open Input-Output System, (I-A)')	4.39
4.13	Selected Interdependent Coefficients for the Sawntimber and Other Related Wood-based Industries (Closed Input-output System, (I-A)')	4.44
4.14	Output Multipliers for the Sawntimber and Related Wood-based Sectors	4.47
4.15	Income Multipliers for the Sawntimber and Related Wood-based Sectors	4.50
4.16	Employment Multipliers for the Sawntimber and Related Wood-based Sectors (Per RM1,000 of Output of Each Sector)	4.51
4.17	Economic Impacts Due to the Sawntimber Export Levy Removal Under Closed Input-Output (RM'000)	4.54
4.18	Total Income Impacts Due to a Change in Export Value (RM'000)	4.63
4.19	Total Employment Impacts Due to a Change in Export Value (Persons/RM1,000)	4.65
4.20	Summary of Economic Impacts Resulting from the Sawntimber Export Levy Removal (RM'000)	4.66

## LIST OF FIGURES

Figure		Page
1.1	Annual PFE Coupes from RMK5 to RMK8 (ha)	1.12
1.2	Production of Wood-based Products (1970-2002)	1.13
1.3	Consumption of Selected Wood-based Products in Peninsular Malaysia	1.16
1.4	Percentage of Total Export Value of Wood-based Products 2002	1.18
1.5	Total Export Volume of Wood-based Products (1970-2002)	1.19
1.6	Selected Total Export Volume of Selected Wood-based Products (1970-2002)	1.20
1.7	Total Export Value of Wood-based Products (1970-2002)	1.21
1.8	Total Export Value of Selected Wood-based Products (1970-2002)	1.22
1.9	Average f.o.b. Unit Prices of Selected Wood-Based Products (1970-2002)	1.33
1.10	Sawntimber Prices by Selected Species (RM/m <sup>3</sup> )	1.35
2.1	Consumer and Producer Surplus: Domestic Market	2.13
2.2	Effect of Trade Liberalization on Domestic Market	2.15
3.1	Economic Impact Analysis Schematic Diagram	3.2
3.2	Effect of Levy Removal on Domestic and World Market	3.4
3.3	Export Volume Levels with and without Levy	3.5
3.4	Production Levels with and without Levy	3.7
3.5	Domestic Consumption Level with and without Levy	3.8
3.6	Producer Surplus	3.9



3.7	Consumer Surplus	3.10
3.8	Government Revenue	3.11
3.9	Net Social Benefits	3.12
3.10	Schematic Diagram of Sawntimber Production	3.15
3.11	Isoquant Surfaces for the Input-Output Economic Model	3.23
4.1	Actual, Fitted and Residual Graphs for Natural Forest Sawntimber Supply	4.6
4.2	Actual, Fitted and Residual Graphs for Rubberwood Sawntimber Rubberwood Supply	4.8
4.3	Actual, Fitted and Residual Graphs for Sawntimber Export Demand	4.10
4.4	Actual, Fitted and Residual Graphs for Sawntimber Domestic Demand	4.12
4.5	Effect on Supply and Demand for Sawntimber Due to 25 Percent Reduction in the Export Levy	4.18
4.6	Effect on Prices of Sawntimber due to 25 Percent Reduction in the Export Levy	4.18
4.7	Effect on Supply and Demand for Sawntimber Due to 50 Percent Reduction in the Export Levy	4.20
4.8	Effect on Prices of Sawntimber due to 50 Percent Reduction in the Export Levy	4.20
4.9	Effect on Supply and Demand for Sawntimber Due to 75 Percent Reduction in the Export Levy	4.21
4.10	Effect on Prices of Sawntimber Due to 75 Percent Reduction in the Export Levy	4.22
4.11	Effect on Supply and Demand for Sawntimber Due to 100 Percent Reduction in the Export Levy	4.23
4.12	The Effect on Prices of Sawntimber due to 100 Percent Reduction in the Export Levy	4.23



4.13	Input Materials Used by the Sawntimber Industry from Other Industries (%)	4.32
4.14	Forward Linkages for the Sawntimber Industry (%)	4.34
4.15	Economic Impacts due to the Export Levy Reduction Under Closed Input-Output System	4.60
4.16	Economic Impacts Resulting from the Sawntimber Export Levy Removal	4.68



## LIST OF ABBREVIATIONS

AAC	Annual allowable cut
ADF	Augmented Dickey-Fuller
ASEAN	Association of Southeast Asian Nations
CS	Consumer surplus
DF	Dickey and Fuller
EIA	Environmental impact assessment
ES	World excess supply
FAO	Food and Agriculture Organization of the United Nations
f.o.b.	Free-on-board
GATT	General Agreement on Trade and Tariff
GDP	Gross Domestic Product
GRIT	Generating Regional Input-output Table
IDC	Identification code for column
IDR	Identification code for row
IMP2	Second Industrial Master Plan
IMPLAN	Impact analysis for planning
I-O	Input-Output
ITTO	International Timber Trade Organization
LAREBLK	Area open for harvesting of natural forest
LD	Local demand
LEA2	Effective area for harvesting
LEXPST	Export values for sawntimber
LNLCP_ST	Local demand for sawntimber
LS	Local supply
LSTPCPVR	Rubberwood sawntimber price
LSTPPQNF	Supply of natural forest sawntimber
LSTPPQRB1	Supply of rubberwood sawntimber
LWGDP	World gross domestic product
LXPST	Sawntimber export price
MC&I	Malaysian criteria and indicators
MPI1	Malaysian productivity index
MTC	Malaysian Timber Council
MTIB	Malaysian Timber Industry Board
NAP3	Third National Agricultural Policy
NSB	Net social benefit for society
NSGP	Net social gain for additional production
NSLC	Net social loss for consumption
OECD	Organization for Economic Cooperation and Development
OPP2	Second Outline Perspective Plan



(Continued)

PFE	Permanent Forest Estate
PRF	Permanent Reserve Forest
PS	Producer surplus
RMK5	Fifth Malaysia Plan (1990 – 1995)
RMK6	Sixth Malaysia Plan (1996 – 2000)
RMK7	Seventh Malaysia Plan (2001 – 2005)
RMK8	Eighth Malaysia Plan (2006 – 2010)
SAM	Social Accounting Matrix
SEEA	System for Integrated Environmental and Economic Accounting
SFM	Sustainable forest management
SLF	State Land Forest
SPSS	Statistical Package for Social Science Program
ST	Sawntimber
TSP	Time Series Program
UK	United Kingdom
USA	United States of America
USDA	United States Department of Agriculture
WD	World demand
WMPE	Weighed mean percentage error
WTO	World Trade Organization
Y2K	Year 2000

