DIVERSIFICATION AND EXPORT EARNINGS INSTABILITY
IN MALAYSIA, 1968-1991

Choong Kam Yee

CLOSED STACKS

A dissertation submitted to
the Faculty of Economics and Administration
University of Malaya
in partial fulfilment of the requirement
for the degree of Master of Economics
1995
To my husband, Kuen Lin,
and my children, Zhao Hong and Yi Ann
Acknowledgements

My sincere gratitude to my supervisor, Prof. Dr. Lee Kiong Hock, for his invaluable time, guidance and patience. I owe a great deal to him for his extensive comments. I also wish to express my thanks to Dr. Tan Eu Chye, Tan Keat Nee, Ng Sor Tho, Casey Lee, Kwek Kian Teng, Goh Kim Leng, Ms. Wan and all my friends in University of Malaya who have assisted me in one way or other.

My utmost gratitude to my husband, Kuen Lin, who has been very understanding and provided great assistance with the word processor. Last but not least, a special thanks to my parents, my brother, and my sisters for their encouragement.
# TABLE OF CONTENTS

1. REVIEW OF LITERATURE
   1.1 Introduction .................................................. 4
   1.2 Trends in Export Instability .................................. 5
   1.3 Causes of Export Instability .................................. 7
       1.3.1 Export Instability and Commodity Concentration ........ 7
       1.3.2 Export Instability and Geographic Concentration ........ 9
       1.3.3 Types of Commodity Export ................................ 10
   1.4 Export Instability and Economic Growth ...................... 11
   1.5 Methodological Issues ........................................ 14
       1.5.1 Incorrect Model Specification ............................ 14
       1.5.2 Inadequacy of Cross-Country Studies .................... 17
       1.5.3 Concentration Indices .................................... 18
       1.5.4 The Measurement of Export Instability .................. 19
   1.6 Objectives of Study .......................................... 21
   1.7 Limitations of Study ......................................... 25

2. EXPORT DIVERSIFICATION IN THE MALAYSIAN ECONOMY (1968-91)
   2.1 Introduction .................................................. 27
   2.2 Diversification of Exports within the Primary Sector ........ 30
       2.2.1 The Agricultural Sector ................................ 30
       2.2.2 The Mining Sector ....................................... 39
   2.3 Diversification from Primary to Manufacturing Exports ....... 47
   2.4 Diversification of Export Markets ............................ 61
   2.5 Summary ...................................................... 64

3. EXPORT INSTABILITY AND EXPORT CONCENTRATION
   3.1 Introduction .................................................. 65
   3.2 Measure of Export Instability ................................ 66
   3.3 The Model .................................................... 71
       3.3.1 Commodity Concentration ................................ 71
       3.3.2 Geographic Concentration ................................ 75
   3.4 The Data ..................................................... 78
   3.5 Analysis: Commodity and Geographic Diversification ......... 79
   3.6 Conclusion .................................................. 89
4. SOURCES OF EXPORT INSTABILITY

4.1 Introduction ........................................................................................................ 92
4.2 Contribution of Major Commodity Exports to Export Instability .................... 93
4.3 The Association of Export Instability with Price and Quantum Instability .......... 99
   4.3.1 Comparison of Price and Export Instability amongst Non-fuel Primary, Fuel and Manufacturing Exports .......................................................... 99
   4.3.2 Contribution of Price and Quantum Instability to Export Instability amongst Major Primary Commodities ............................................................... 106
4.4 Contribution of Export Markets to Geographic Instability ............................. 111
   4.4.1 Contribution of Major Export Markets to Geographic Instability ............... 113
4.5 Conclusion ........................................................................................................... 116

5. EXPORT INSTABILITY AND ECONOMIC DEVELOPMENT

5.1 Introduction ........................................................................................................ 119
5.2 Limitations of Study ......................................................................................... 121
5.3 The Data ........................................................................................................... 123
5.4 Impact of Export Instability on Imports of Capital Goods and Domestic Investment ........................................................................................................... 123
   5.4.1 Export Instability-led Imports of Capital Goods Instability Argument .......... 124
   5.4.2 Export Instability-led Domestic Investment Instability Argument ............... 130
5.5 Conclusion ........................................................................................................... 134

6. CONCLUSION AND POLICY IMPLICATIONS ................................................. 135

APPENDICES ............................................................................................................. 145

SELECTED BIBLIOGRAPHY ..................................................................................... 177
LIST OF TABLES

Table 2.1  Planted hectarage ('000 hectares) of rubber and oil palm smallholdings by FELDA in Peninsular Malaysia ................................................................. 33

Table 2.2  Production ('000 tonnes) of rubber, palm oil and cocoa beans .............. 33

Table 2.3  Malaysia: Selected agricultural commodities, planted area ('000 hectares) ................................................................. 34

Table 2.4  Rubber: Yield and production ................................................................. 37

Table 2.5  Malaysia: Development allocation for agricultural development (RM million) ................................................................. 40

Table 2.6  Contribution of major mineral exports to total gross exports (percentage).... 43

Table 2.7  Malaysia: Development allocation for the mining sector (RM million) ...... 44

Table 2.8  Malaysia: Contribution of major natural resources (percentage)............... 45

Table 2.9  Malaysia: Contribution of major agricultural commodity exports (percentage) ................................................................. 46

Table 2.10 Malaysia: Development allocation for the manufacturing sector (RM million) ................................................................. 58

Table 2.11 Malaysia: Composition of exports of manufactured goods (percentage)..... 60

Table 2.12 Malaysia: External trade by major countries: Contribution of a country's trade to total gross exports (percentage)................................. 61

Table 2.13 Malaysia: GSP exports (1991) ................................................................. 63

Table 3.1  Commodity: Concentration index and export instability index ................. 80

Table 3.2  Export market: Concentration index and export instability index .............. 82

Table 3.3  Decomposition of Commodity Export Earnings Instability ....................... 84

Table 3.4  Decomposition of Geographic Export Earnings Instability ....................... 85
Table 3.5  Relationship between: (a) export instability and commodity/geographic concentration adjusted for the variation amongst the individual export commodity/export market instability and; (b) export instability and covariances among commodities/export markets ........................................ 89

Table 4.1  Share of major commodity groups in total export earnings ........................................... 95
Table 4.2  Contribution of major commodity groups to total export instability ......................... 95
Table 4.3  SITC commodity groups which contributed to export instability in about the same proportion as its importance in total export trade .................... 96
Table 4.4  SITC commodity groups which contributed less to the Instability of total export earnings than their proportionate share of total exports ............ 96
Table 4.5  SITC commodity groups which contributed to export instability in excess to their proportionate share of total export earnings ......................... 96
Table 4.6  Measures of export instability of non-fuel primary products, fuel and manufactures (1968-1988) ........................................................................ 100
Table 4.7  Measures of export instability of major primary commodities (1967-1987) 107
Table 4.8  Instability by export destinations ............................................................................. 111
Table 4.9  Share of total exports by major export markets ..................................................... 114
Table 4.10 Contribution of major export markets to total export instability ....................... 115
Table 5.1 ............................................................................................................................... 125
Table 5.2 ............................................................................................................................... 126
Table 5.3 ............................................................................................................................... 128
Table 5.4 ............................................................................................................................... 129
Table 5.5 ............................................................................................................................... 131
LIST OF CHARTS

Chart 2.1  Average prices of cocoa beans, palm oil and rubber .................................. 34
Chart 3.1  Commodity: Concentration and export instability value ................................. 81
Chart 3.2  Export market: Concentration and export instability value ........................... 83
Chart 4.1  Price indices of non-fuel primary, fuel and manufactured exports ......... 101
Chart 4.2  Export prices relative to import prices for non-fuel primary products, fuel and manufactures ................................................................. 103
Chart 4.3  Malaysia: Terms of trade .............................................................................. 104
Chart 4.4  Instability of export values of manufactured goods and non-fuel primary products ...................................................................................... 105
Chart 4.5  Instability of price indices of manufactured exports and non-fuel primary exports ...................................................................................... 105
ABSTRACT

When it is found that many less developed countries which are principally exporters of a few primary commodities experience high export earnings instability, calls to diversify are naturally intensified. The contention is that: (i) a high degree of primary commodity concentration implies high export earnings instability, and (ii) diversification, particularly into the export of manufactured goods would help stabilise export earnings.

Malaysia presents an ideal case study as it represents a classic primary commodity, export-oriented economy which has undergone a process of diversification over the last three decades. Malaysia, however, remains a small but highly open-economy. Gross exports accounted for 76.5 per cent of GNP in 1991.

Between the 1960s and early 1970s, exports of primary commodities constituted more than 85 per cent of the country's export earnings. Over 70 per cent of export earnings were derived from natural rubber, tin, timber and palm oil. Various studies attribute the high degree of export instability experienced during the period to this specialization in the export of primary commodities; particularly natural rubber and tin.

From the mid-1970s, Malaysia's export structure has shifted away from concentration on the few primary commodities (particularly rubber and tin) towards a more diversified basket of exports, notably manufacturing exports. During the 1980s, the share of rubber, tin, timber and palm oil in total export earnings saw a decline from 44.9 per cent in 1980 to 12.3 per cent in 1991. On the other hand, export of manufactured goods rose from 22.4 per cent to 64.9 per cent over the same period.
This study evaluates Malaysia's diversification efforts. In particular, we examine whether diversification has been of the right kind and/or in the right direction in terms of the impact on export earnings instability. The study covers the period from 1968 to 1991. Unlike earlier empirical studies for Malaysia, the approach employed here presents a more detailed analysis of export earnings instability. The study examines the three principal components of export earnings instability: (i) the level of commodity/geographic concentration, (ii) the average instability level of individual commodity/export market, and (iii) the relationship between the commodities/export markets.

An attempt is made to identify export commodities that have contributed to export instability with respect to their relative share in total export earnings. Our findings indicate that diversification has not been so much of the "wrong" kind, but that external influences have exerted a stronger influence on total export earnings instability. This has resulted in an inconsistent decline in the export instability index despite a consistent fall in commodity concentration over the 1968-91 period.

The assessment of price and quantity fluctuations shows that manufactured goods, in general, displayed lower price and export value instability than non-fuel primary products and fuel products. Among the five major primary commodities under study (rubber, palm oil, saw logs and sawn timber, tin and petroleum), it was found that instabilities in price, quantum and export values among the commodities were not highly correlated. The study finds that export instability would have been worse had Malaysia not diversified its production and export of primary commodities.

Geographic concentration remained relatively high during the entire period of study. The non-traditional export markets exhibit larger instability compared to the
traditional ones. The results point to further research into the source(s) of instability in non-traditional countries. This is, however, beyond the scope of the present study.

The final part of the study focuses on the *a priori* argument that export instability has adverse effects on economic development. The study of the effects of export instability on economic development is confined to short-run impacts within the Harrod-Domar framework. The argument rests on the idea that imported capital goods and domestic investment goods augment potential output and thus the pace of economic growth. The study, therefore focuses on the impact of export instability on the flow of imported capital goods, and on domestic investment. The results indicate that imports of capital goods in particular, and domestic investment to a lesser extent, appear to move together with export earnings instability during the 1972-1991 period. The implication is that export instability exerts an unfavourable impact on the pace of economic development in Malaysia.