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TRANSITION TO AN OPEN ECONOMY: AN ANALYSIS OF VIETNAM'S EXPORT PERFORMANCE 1986 – 2000

A thesis presented in partial fulfilment of the requirements for
the degree of Master of Business Studies in Economics
at Massey University, Palmerston North, New Zealand.

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2002

Statement of Sources

The work presented in this thesis is the original and independent work of the author, except where otherwise stated or acknowledged. No part of this work has been previously submitted to this, or any other university, for the attainment of a formal qualification.

A handwritten signature in black ink, appearing to read 'Minh Thu To', with a stylized flourish at the end.

Minh Thu To
January 2002

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Abstract

External reform is a large component of Vietnam's overall transition to a market-based economy which officially started in 1986. This study analytically and empirically examines Vietnam's export performance from 1986 to 2000.

The spectacular growth in both exports and imports and significant changes in Vietnam's export composition and market structure since 1986 are delineated. Exports, as a demand source, are found to contribute an increasing part of the overall output growth. Vietnam's changing Revealed Comparative Advantage (RCA) indicates a move toward manufactured exports. Increased diversification is apparent within Vietnam's export destinations, but less diversification is evident in its export composition.

A Constant-Market-Share (CMS) analysis of the sources of non-oil export growth over the period 1985-1999 shows that Vietnam's exports concentrated on commodities with import demands growing more slowly than the average of all commodities. From 1985 to 1995, Vietnam's exports benefited from increasing penetration into relatively fast growing Asian markets, but the Asian crisis of 1999 effectively derailed Vietnam's export expansion. Inability to adapt export composition and market structure to changes in world conditions affected Vietnam's increasing share in world exports. Vietnam's increased competitiveness, as reflected in the micro-share effects, is found to be the key to observed export growth, representing 118 percent of the total gain in market share from 1985 to 1999.

The study further tested observed composition of manufactured exports to three selected groups of Vietnam's trading partners – the world, the OECD and the Asian developing countries – in the light of the Ricardian and the Heckscher-Ohlin theories. Empirical results provide no evidence that manufactured exports to any of these three groups of trading partners is positively correlated with labour productivity. The Heckscher-Ohlin contention that Vietnam should export relatively labour-intensive goods is supported by the pattern of Vietnam's manufactured exports to the OECD and the world, but not confirmed by its pattern of manufactured exports to the Asian developing countries.

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List of Abbreviations

ADB	Asian Development Bank
AFTA	Asean Free Trade Area
ANZ	Australia and New Zealand
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CAE	Commodity Adjustment Effect
CCE	Commodity Composition Effect
CEPT	Common Effective Preferential Tariff
CIE	Centre for International Economics
CIEM	Central Institute for Economic Management
CMEA	Council for Mutual Economic Assistance
CMS	Constant-Market-Shares
CMT	Cut-Made-Trim
DMRT	Domestic Marginal Rate of Transformation
EN	Equivalent Number
EU	The European Union
FAO	Food and Agriculture Organisation of the United Nations
FDI	Foreign Direct Investment
FMRT	Foreign Marginal Rate of Transformation
GDP	Gross Domestic Products
GLS	Generalised Least Square
GSO	General Statistics Office
H-O	Heckscher-Ohlin
IMF	International Monetary Fund
LSDV	Least Square Dummy Variable
MAE	Market Adjustment Effect
MARD	Ministry of Agriculture and Rural Development
MCE	Market Composition Effect
MOT	Ministry of Trade
MPI	Ministry of Planning and Investment

MSE	Micro-Share Effect
NAPES	National Asia Pacific Economic And Scientific
NICs	Newly Industrialised Countries
OECD	Organisation For Economic Cooperation and Development
OLS	Ordinary Least Square
QR	Quantitative Restriction
RCA	Revealed Comparative Advantage
ROW	The Rest of The World
SBV	State Bank of Vietnam
SITC	Standard International Trade Classification
UK	The United Kingdom
UNCTAD	United Nations Commission for Trade and Development
UNIDO	United Nations Industrial Development Organisation
UNDP	United Nations Development Programme
UNDP	United Nations Development Programme
US	The United States of America
WTO	World Trade Organisation

Chapter 1

INTRODUCTION

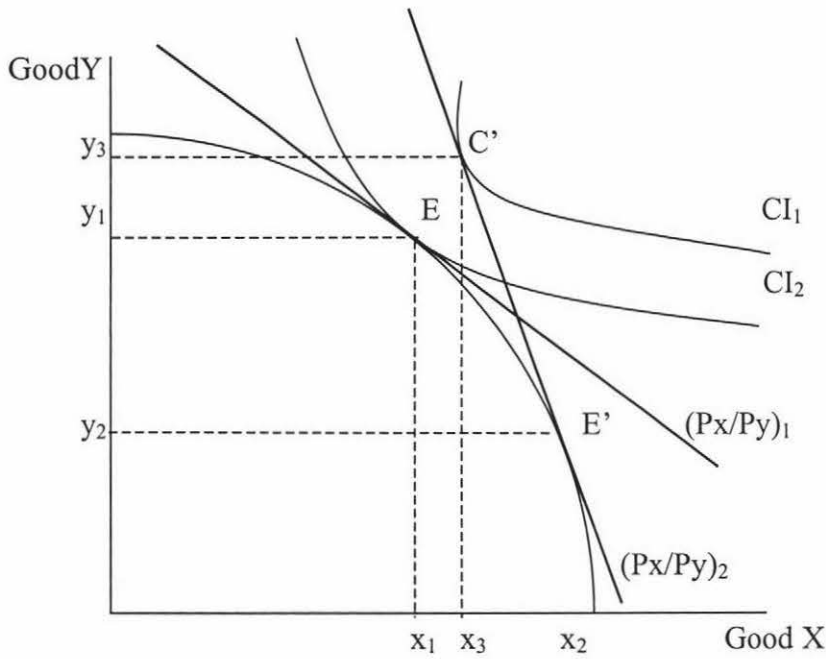
1.1 BACKGROUND TO THE STUDY

The present thesis is concerned exclusively with the question of foreign trade in Vietnam. There are two key rationales for this focus. Firstly, it is widely accepted that foreign trade is one of the important factors for economic growth in developing countries, especially in the modern world economy where economic globalisation and international labour specialisation are getting more and more intensified. Secondly, as a developing country that is moving from a centrally planned to a market-based economy, a successful trade sector is of vital importance for economic growth in Vietnam.

The importance of trade has been dealt with in a large body of literature on the two-way relationship between trade and economic growth. On the theoretical side, orthodox theory posits that trade is important because it permits a more efficient resource allocation. International trade provides the means for the economy to specialise in industries that are the most competitive. Trading nations can also improve their total welfare as trade permits an economy to produce along the domestic production possibility frontier, and equates the domestic marginal rate of transformation (DMRT) with the international price ratio, i.e. the terms of trade, for efficient equilibrium output. It can then consume outside this boundary – and achieve a higher welfare level – by trading at the foreign marginal rate of transformation (FMRT). This process where changes in prices bring about substitution in production and consumption is graphically illustrated in Figure 1.1.

Development theory, on the other hand, focuses on the level of external demand. Trade is important for developing countries, according to this perspective, because it works as a bridge between growth and savings of *developed* countries and growth in developing countries. Trade is thus portrayed as an autonomous ‘engine of growth’ (Riedel, 1988).

FIGURE 1.1: COUNTRY GAINS FROM TRADE



In autarky, the country is in equilibrium at point E. With the opening of trade, it now faces the international price ratio or terms of trade, $(P_x/P_y)_2$. Given the relatively higher international price of good X, production moves to E', the point of tangency between the international terms of trade and the domestic production possibility frontier (PPF). At the same time, the Y good is relatively less expensive at international prices, so consumers increase their relative consumption of it and begin consuming at point C', where the terms of trade tangent to the highest community indifference curve possible. C' lies outside the PPF and it is obtained by exporting the amount x_3x_2 of good X and exchanging it for y_3y_2 imports of the Y good. The country is clearly better off because trade permits it to consume on the higher indifference curve CI_2 (Appleyard and Field, 1998).

On the empirical side, the success and failures of developing countries following different trade policies have attracted the attention of economists to investigate how trade works in a particular context. It has been shown over the past decades that many developing countries that have grown rapidly for several decades have, by and large, adopted an outward-oriented growth strategy in which a rapid growth of exports has been a notable characteristic. Those economies whose growth has more recently accelerated have generally been successful in part by arranging incentive structures in a manner that ensures an increasing integration with the world economy. Exports of many goods and services grew rapidly, but a key feature was the spectacular growth of

exports of labour-intensive industrial products in the initial years of the new growth strategy. This rapid growth in labour-using economic activities led to a rapid increase in industrial employment. The experience of the Asian Newly Industrialised Countries (NICs) shows that, after the initial years, export industries were able to attract additional employees only by raising their wages. Rising real wages resulted in a “structural transformation” of the entire economy. Labour force engaged in agriculture fell dramatically and that in industry and services rose. The structure of exports changed too. Higher real wage and more experienced labour-force after the early years of outward-oriented strategy made it less attractive to produce and export unskilled-labour-intensive goods. These countries therefore started entering into new activities in which the availability of skilled and highly trained labour becomes a major asset (Corbo et al, 1985; Greenaway, 1988; Krueger, 1995).

Vietnam’s participation in the world economy started later than most of the other developing countries. Empirical studies on Vietnamese trade are therefore very limited. Most of the recent works on Vietnamese trade focus on trade policy to highlight areas where further reforms are needed and on the examination of the impact of Vietnam’s economic integration (eg CIE, 1998 and 1999; UNDP, 2000). There is, to the author’s knowledge, no empirical work on how the composition and structure of Vietnam’s exports have changed and their link to trade theory and actual export growth. This study, which focuses on these issues, thus fills a gap in the literature.

1.2 OBJECTIVES OF THE STUDY

Reform of the external sector has played a major role in Vietnam’s overall economic restructuring over the period since 1986. This study therefore examines Vietnam’s trade policy regime with a view to identifying its contribution to improving Vietnam’s export structure, competitiveness and overall performance, and how these changes, in turn, contributed to Vietnam’s economic growth and diversification over the period under study.

To address this overall objective, the study sets out three main tasks. Firstly, it tries to provide a review of the evolution of Vietnam’s trade regime and its impacts on overall export performance and changing trade patterns. Secondly, the study seeks to quantify

the relative importance of export patterns and competitiveness to Vietnam's export expansion. Lastly, the commodity composition of (manufactured) exports is examined in the light of the two influential trade theorems, the Ricardian and the Heckscher-Ohlin (H-O) models.

1.3 SCOPE OF THE THESIS

This study concentrates only on the exports of Vietnam. A country's imports also reflect its pattern of specialisation, but this study does not extend itself to cover imports.

The chosen time period for this study is from 1986 to the present. As Vietnam started its economic reforms in 1986, the emphasis is on the performance of exports over the reform period. Lack of data for the period before 1986 also prevents the analysis from covering the period before 1986.

1.4 DATA AND METHODOLOGY

Most of the data used in this study is obtained from the General Statistical Office (GSO) of Vietnam and the National Asia Pacific Economic and Scientific (NAPES) database¹ developed jointly by the Australian National University and the Victoria University of Technology (Australia). Where the GSO and NAPES data is unavailable or incomplete, data from the International Monetary Fund, the World Bank and other reliable official sources are also used to supplement. It should be noted that, although a considerable amount of time was devoted to the collection of data both from New Zealand and during a field trip to Vietnam, inadequate data, due to both unavailability and inaccessibility, has proved to be one of the major obstacles to conducting this research. In addition, changes in the recording system of National Accounts and the classification of commodities brought in during the period under study made it very difficult to construct comparable data series both over time and with other countries. The methodologies used here are constrained to a great extent by these and other data limitations. Nevertheless, as an early empirical study, it is believed that the findings would still be useful for future policy.

¹ NAPES Internet address: <http://napes.anu.edu.au>

Different methodologies are used in this study for its different objectives as outlined in Section 1.2. A detailed description of each method will be given in the section where it is applied.

- Chapter 2 uses the Lewis model to quantify the relative contributions of different demand sources to output growth.
- In Chapter 3, the Equivalent Number (the inverse of the Herfindal index) method and the Revealed Comparative Advantage indices are used to supplement the descriptive analyses.
- Chapter 4 employs the Constant-Market-Shares (CMS) model to account for the observed growth in exports over selected time periods.
- In Chapter 5, two econometric models are set up using pooled cross-sectional time-series data to test hypotheses based on the Ricardian and the H-O trade models.

1.5 CHAPTER OUTLINES

The thesis consists of six chapters and is organised in the following manner: the present chapter (Chapter 1) discusses the background to the study and specifies the objectives, scope, data and methodologies, and the outline of the study.

Chapter 2 gives an overview of the economic growth of Vietnam since 1986, providing a review of growth and of the structure of the economy. It examines the observed structural changes in terms of sectoral shares in total output and employment, and the contribution of these sectors to GDP growth. Growth is then examined from the demand side to quantify the relative importance of different demand sources – particularly exports – to output growth, using the familiar Lewis model. This quantification of the demand sources over several periods provides a broad picture of how exports have come to play a part in output expansion, and how this relationship has changed over time.

Chapter 3 first examines the nature and evolution of Vietnam's trade policy; it brings out the impact of specific trade reform measures on exports. As trade and other economic reforms took place, resources were reallocated in ways that reflected the

country's comparative advantage more closely. This led to a shift in the economic structure (examined in Chapter 2); and, together with it, changes in the commodity composition and market structure of exports. This shifting composition and direction of exports over the last fifteen years is assessed to see if the changes reflect increasing industrialisation and liberalisation. The analysis is conducted in terms of the Revealed Comparative Advantage (RCA) approach pioneered by Balassa (1965). The RCA, which is computed at a 3-digit Standard International Trade Classification (SITC) level, depicts changes not only at the sectoral level but also at the product level. Since 'product and market diversification' has been one of the objectives of Vietnam's export strategy, this analysis of the composition and destination of exports also includes examining whether Vietnam has been successful in diversifying its export commodities and markets.

The changes in export composition and direction that are examined in Chapter 3 can be favourable or unfavourable to export growth. Chapter 4 answers this question through the search for the sources of Vietnam's export growth. The CMS model provides an analytical tool for examining the factors contributing to export expansion by allowing export growth to be decomposed into different effects with a sound economic interpretation. Since these effects are either internal or external, the findings would show the extent to which internal and external factors have been responsible for Vietnam's export growth since the reform. The chapter will thus provide useful analytical bases for policy recommendation.

Chapter 5 further examines the composition of Vietnam's exports. Using the data for Vietnam's manufactured exports to three selected groups of trading partners, this chapter tests Vietnam's comparative advantage in relation to the Ricardian and the H-O models. The empirical results show the extent to which Vietnam's manufactured exports can be explained in terms of labour productivity and relative factor endowments as hypothesised in the Ricardian and the H-O approaches.

Chapter 6 summarises the findings of the study and makes some concluding observations.

Chapter 2

AN OVERVIEW OF THE VIETNAMESE ECONOMY SINCE 1986

2.1 INTRODUCTION

Vietnam today stands on the threshold of a new era in its international relations and economic development. After fifteen years of comprehensive reform, the Vietnamese economy has been substantially transformed and it is firmly integrating into the world economy.

The economic reform, officially adopted in 1986, has had significant impact on Vietnam's economic development. One of the most remarkable features of Vietnam's transition to a market economy is that it has avoided a decline in output during the transition and quickly moved to high growth (IMF, 1996). Vietnam successfully overcame the economic crisis of the 1980s and attained a high GDP growth rate in the mid-1990s. Decisive macroeconomic policies helped bring down inflation and stabilise the economy. Reform policies resulted in large shifts in the structure of output and employment, helping to create a restructured economy with a sound basis for accelerated growth.

This chapter will introduce the economy of Vietnam and analyse its economic growth since the reform. After a brief review of the country's general features and the background to the reform, the economy will be examined with reference to economic sectors and demand sources, providing some insights into the relative importance of each to Vietnam's economic growth.

2.2 GENERAL FEATURES

Vietnam is located in Southeast Asia with a total geographic area of 331,738 square kilometres. In 2000, the country had a population of about 78 million (GSO, 2000a),

making it the second most populous country in Southeast Asia (after Indonesia) and 13th in the world. Despite initial success in industrialising the economy, Vietnam retains a large rural area with 76 percent of the population living in rural area (GSO, 2000a), and two thirds of the workforce engaging in agricultural activities (IMF, 1999a).

Since its independence in 1945, Vietnam has had a distinct historical evolution. Soon after gaining independence it fell into long-lasting wars until 1975. The reunified economy was then placed under a centrally-planned management mechanism until the mid 1980s. This historical background strongly affected the development of the economy. The economic development path of Vietnam since 1945 has gone through three major periods: a thirty-year period of war economy from 1945 to 1975, a period of centrally planned economy from 1976 to 1985 and from 1986 a period of economic reforms and also of remarkable economic performance.

After thirty years of war and ten years of economic mismanagement², by mid-1986 it was clear that major reform of the economic system was required if the country was to avoid complete collapse. In 1986, the economic reform (*doi moi*) officially began. Initially, the reform measures were implemented slowly but their early success encouraged the government to further accelerate the process (Harvie and Tran, 1997). The comprehensive reform programme with the objective of liberalising and deregulating the economy explicitly recognised the failure of central planning and marked a major turning point in the economic development of Vietnam.

2.3 AGGREGATE GROWTH

Vietnam's economic growth over the last 15 years has followed a humped shape. From 1986 to 1991, GDP grew at an average rate of less than five percent per annum (Table 2.1). This period witnessed the weakening of traditional export markets in Eastern Europe, cut in foreign aid from the former Soviet Union, and the absence of international assistance from international financial institutions. FDI was almost non-existent in these years as the Law on Foreign Direct Investment was not in place until

² After reunification in 1975, Vietnam attempted to develop a centrally planned economy based on collective farming and development of heavy industries. These economic policies which led to a drop in agricultural production and an imbalanced economic structure were later acknowledged as a failure in macroeconomic management (Harvie and Tran, 1997).

TABLE 2.1 MAJOR ECONOMIC INDICATORS OF THE VIETNAMESE ECONOMY: 1986 - 2000

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Population (million; as of 1 July)	61.11	62.45	63.73	64.65	65.76	66.89	68.04	69.21	70.4	71.61	72.84	74.09	75.36	76.65	77.69
Real GDP growth rate (in percentage)	2.84	3.63	6.01	4.68	5.09	5.81	8.70	8.08	8.83	9.54	9.34	8.15	5.76	4.77	6.75
Agriculture	2.99	-1.14	3.65	7.00	1.00	2.18	6.88	3.28	3.37	4.80	4.40	4.33	3.53	5.23	4.04
Industry and construction	10.94	8.46	5.00	-2.59	2.27	7.71	12.79	12.62	13.39	13.60	14.46	12.62	8.33	7.68	10.07
Services	-2.27	4.57	8.77	7.86	10.19	7.38	7.58	8.64	9.56	9.83	8.80	7.14	5.08	2.25	5.57
GDP Structure (in percentage)															
Agriculture	38.06	40.56	46.30	42.07	40.80	40.50	34.90	29.10	27.40	27.20	27.80	25.80	25.70	25.40	24.30
Industry and construction	28.88	28.36	23.96	22.94	22.80	23.50	23.70	28.60	28.90	28.80	29.70	32.10	32.60	34.50	36.60
Services	33.06	31.08	29.74	34.99	36.40	36.00	41.40	42.30	43.70	44.10	42.50	42.20	41.70	40.10	39.10
Inflation (in percentage)	774.7	231.8	393.8	34.7	67.1	67.5	17.5	5.2	14.4	12.7	4.5	3.6	9.2	0.1	-0.6
Balance of payments (in US\$ million)															
Trade balance	-1370	-1330	-679	-350	-41	-63	-60	-547	-1190	-2345	-3150	-1358	-780	1080	-892
Merchandise export	785	861	733	1320	1731	2042	2475	2985	4054	5198	7330	8955	9300	11540	14308
Merchandise import	-2155	-2191	-1412	-1670	-1772	-2105	-2535	-3532	-5244	-7543	-10480	-10313	-10080	-10460	-15200
Other goods, services and income	...	...	-68	-237	-356	-160	-71	-484	-278	-150	-468	-1162	-530	-1008	...
Unrequited transfers	-53	-30	...	...	138	90	123	264	302	627	1200	885	1022	1181	...
Current account balance	-1423	-1360	-747	-587	-259	-133	-8	-767	-1166	-1868	-2418	-1635	-288	1253	...
Capital account	...	...	401	299	121	-59	271	-180	897	1807	2306	1972	2426	1368	...
in which: Direct investment	...	...	...	100	120	220	260	300	1048	1780	1803	2100	1735	1484	...
Net errors and omissions	...	...	26	66	-4	142	-197	-109	-140	-115	125	-21	-1492	-1022	...
Overall balance	...	...	-320	-122	-22	170	326	-756	639	1604	1816	2416	2381	3083	...

Sources: ADB, 2000b

GDP Structure: Statistical Yearbook, various years, GSO.

1988. Low levels of production together with monetary mismanagement in the mid 1980s led to hyperinflation in this period which reached more than 700 percent a year in 1986, and remained at a three digit level over the following two years (Table 2.1).

The economic reform, initiated against this background, has played an important role in bringing the country out of economic crisis. The stabilisation programme adopted in 1989 helped reduce inflation to a two-digit level by the early 1990s and further stabilise it thereafter (IMF, 1996). The move towards exporting to Asian markets of Japan, Singapore, Hong Kong, Taiwan and South Korea and also increasingly to Western Europe diversified Vietnam's export markets and offset the loss of its traditional markets in Eastern Europe.

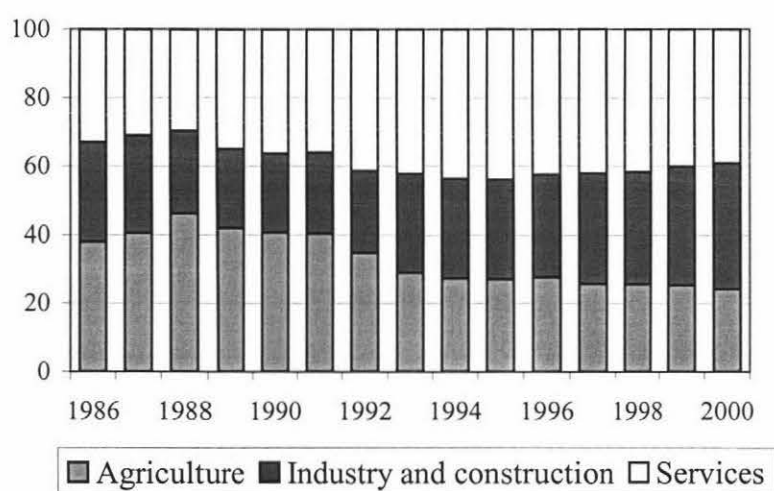
From 1992 to 1997, Vietnam's GDP expanded at an average rate of nine percent. This period saw a boom in FDI, exports and imports and a series of major reform policies. The rapid growth in private consumption combined with FDI inflows fuelled economic development. Output per worker also increased rapidly, mainly reflecting capital-intensive investment in State-owned enterprises (SOEs) (IMF, 1999a). This period – from 1992 to 1997 – is often referred to as the high growth era (ADB, 2000a and IMF, 1999a).

However, the high-growth period essentially ended in 1997 when the Asian economic crisis hit Vietnam hard. Although Vietnam was not directly affected by the crisis due to the lack of an open financial system, it suffered the consequences in terms of reduced trade and inward FDI (United Nations, 1999:9; Pottier, 2001:236). FDI inflows, of which 67 percent comes from the Asia-Pacific region (CIEM, 1999), dropped dramatically, having a seriously adverse impact on industry and services. In 1998, the growth rate decelerated to 5.8 percent followed by a further fall to 4.7 percent in 1999. In 2000, GDP growth picked up at 6.7 percent, higher than the planned rate of 5.6% (GSO, 2000a). The recovery was led, on the supply side, by strong performance in industry. On the demand side, recovered domestic consumption helped stimulate production (ADB, 2001).

2.4 SECTORAL PERFORMANCE

The performance of the major sectors in Vietnam since the reform varies greatly, resulting in a structural shift in the economy. The government's new emphasis on the production of food, consumer goods and exportables has had a strong impact on resource allocation and, thus, the overall economic structure. Since 1986, agriculture has grown at an average rate of 3.7 percent per year and has been outpaced by industry and services which have grown at approximately nine and seven percent per annum on average. Consequently, agriculture's share in GDP reduced by about 14 percent, while that of industry expanded by 8 percent during the same period. The service sector increased its share to a peak of 44.1 percent in 1995 but has declined slightly since then. Despite this decline, the service sector remains the largest sector in the economy (Table 2.1).

FIGURE 2.1 OUTPUT STRUCTURE



Source: Extracted from Table 2.1.

Within each sector, there have also been significant changes in structure and performance. The following sections look briefly at each major sector.

2.4.1 AGRICULTURE

The agricultural sector benefited from the early stage of reform which gave farmers the land-use right and allowed them to take initiative in farming activities and benefit from

surplus production (ADB, 1995). Motivated by personal gain, farmers worked much harder and grew crops which gave them higher returns (Tran, 1998; Anderson, 1999). From 1986, the share of the agricultural sector in GDP increased gradually to a peak of 46.3 percent in 1988. Since then, despite the sector's reasonably high output growth, its share in total GDP declined to 40 percent in 1990 and less than 25 percent in 2000 (Table 2.1). Both industry and construction and services filled the gap. During this period, although the agricultural sector performed well, its growth rate was far lower than those of the industry and construction and the service sectors.

2.4.2 INDUSTRY AND CONSTRUCTION

The share of industry and construction in GDP actually dropped during the period 1986-1990. Industrial growth over this period was unstable due to the simultaneous effects of several factors, notably high and long-lasting inflation and the reduction of foreign aid from the former Soviet Union (Le and Tran, 1999). The industry sector started to gain momentum in 1991 and has recorded high and stable growth since then. From 1991 to 1997, industry and construction output increased at an average rate of over 12 percent per annum. During these years, foreign investment played a very important role, with the growth rate of the industrial sector with foreign capital twice as much as that of the domestically owned industrial sector (IMF, 1999a; Portier, 2001).

TABLE 2.2
REAL GROWTH RATES OF INDUSTRIAL SUB-SECTORS

	<i>Unit: Percentage</i>				
	1995	1996	1997	1998	1999
Industry and construction	13.60	14.46	12.62	8.33	7.68
Mining and quarrying	13.51	13.61	13.20	14.05	15.01
Manufacturing	13.55	13.59	12.83	10.20	7.48
Electricity, gas and water supply	18.49	17.79	14.70	12.34	7.05
Construction	12.70	16.09	11.32	-0.50	2.40

Source: ADB (2000a)

From 1997 to 1999, there has been a slow down in industry and construction. The growth rates of almost all industrial sub-sectors declined except those of crude oil, cement, paper and coal mining. Production of some consumer goods, although still expanding at a relatively high rate, is facing fierce competition from goods imported from other Asian countries (ADB, 2000a).

Overall, the growth of industry and construction sector has been encouraging. However, its structure reveals several problems. A worrying feature is the dependence on the exploitation of natural resources. The growth rate of the exploitation industries is generally higher than that of processing industries (Table 2.2). Also, due to relatively high levels of protection, industrial investment has been directed more to import-substitution industries which are more capital-intensive, rather than towards labour-intensive and export-oriented industries (IMF, 1999a; Belser, 2000). These trends are detrimental for the long-term development of the industrial sector. On the one hand, these protected industries which are performing inefficiently³ draw resources away from competitive ones. On the other hand, in order to survive, they need continued support and protection which holds back the trade liberalisation process of Vietnam.

2.4.3 SERVICES

The service sector is the largest sector of the Vietnamese economy, accounting for 39 percent of GDP in 2000 (Table 2.1). Until recently, the dynamism of the service sector was the key factor in Vietnam's growth performance. The real growth rate of the service sector was the highest from 1988 to 1997, of 8.6 percent on average, making it the largest sector in terms of added value (Table 2.1). The growth of the service sector, however, started to slowdown in 1997 with the real growth rate down to only 2.25 percent in 1999. The bottleneck was in domestic retail which grew at only 1.9 percent and hotels and restaurants at 1.8 percent (CIEM, 2000).

The structure of the services sector of Vietnam is diverse, ranging from self-employment in micro-enterprises such as street food vending, small-scale trade and transport to employment in luxury hotels. During the high growth period (1992-1997),

³ For example, it has been estimated that the cost of producing cement in Vietnam is twice what it is in other regional countries (Vo, 2001).

fast-growing sub-sectors included wholesale and retail trade, real estate services, financial intermediation services and tourism-related activities such as hotels and restaurants. Foreign direct investment inflows fuelled growth in the real estate business, particularly offices and apartments and tourism-related activities. As a result, the development of these sub-sectors became overheated and there were signs of over-investment. After the crisis, the construction of many hotels and office buildings has been delayed and many other existing ones have been operating far below capacity (ADB, 2000a).

2.4.4 SECTORAL CONTRIBUTIONS TO REAL GDP GROWTH

Together with the structural shift discussed in the previous section, the relative contribution to real GDP growth of each sector also changed. Until 1995, services growth was the major force of output growth due to the sector's large size and high growth rate. However, the slowdown of the service sector since the Asian crisis limited its contribution to output growth. The drop was dramatic in 1998 when services grew by only 2.3 percent, far lower than both agriculture and industry (Table 2.1). From 1996, industry and construction became the dominant sector in terms of contribution to GDP growth. In 1999 and 2000, this sector accounted for more than half of the total added value of the economy.

TABLE 2.3
SECTORAL CONTRIBUTION TO GDP GROWTH, 1986-2000

	<i>Unit: Percentage</i>									
	1986-1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Agriculture	18.8	24.3	12.3	11.0	13.8	12.4	13.3	14.8	25.9	14.2
Industry	35.2	37.7	41.6	42.0	41.2	46.4	48.5	47.2	53.8	51.2
Services	46.0	38.0	46.2	47.0	45.0	41.3	38.2	38.0	20.3	34.6
Total	100	100	100	100	100	100	100	100	100	100

Source: From 1986-1991: Computed from ADB data (ADB 2000a)

From 1992-1998: IMF (1999b) Table II.2

From 1999-2000: Computed from GSO data in Statistical Yearbook 2000

Note: Data for 2000 are preliminary

Agriculture's contribution has been modest despite consecutive good harvests. The peak of the sector's contribution was reached in 1999, when food production was at a record high, an increase of 5.3 percent from 1998 (Table 2.1). The high contribution in 1999 is also the result of the slowdown in industry and services.

Among the sub-sectors, manufacturing, wholesale and retail trade made the largest contribution of 27 and 15 percent respectively (IMF, 1999a). Construction made a stable contribution of about 10 percent on average during the period 1992-1998 while hotels and restaurants' contribution to GDP growth fluctuated widely from a peak of 17 percent in 1993 to as low as 1.7 percent in 1998 (IMF, 1999a).

On the whole, since the reform the structural shifts have been favourable and along the lines of Vietnam's industrialisation policy.

2.5 EMPLOYMENT AND THE LABOUR MARKET

The labour force of Vietnam was estimated to be equal to 38.5 million people or 50.5 percent of the population in 2000. The labour force has grown at approximately two percent per annum over the last decade. Unemployment and underemployment have been an acute problem in Vietnam. In 2000, it was estimated that 1.45 million people were unemployed, of which 48 percent were urban and 52 percent were rural (GSO, 2000a). Underemployment is severe in the rural area. According to the annual labour census, the rural labour force often use just above 70 percent of their working time.

One of the most prominent features of the labour market in Vietnam is that more than half of the labour force is engaged in the form of family farming in agriculture and forestry. As a result, a large number of the labour force is self-employed. On the whole, approximately 80 percent of the active labour force were self-employed; of whom 60 percent were self-employed farmers in 1999 (ADB, 2000a). Wage employment only accounts for about 20 percent of the active workforce, most of it in the services sector (42.7%) and industry and construction (39.7%). Agriculture, fisheries and forestry, although accounting for 69% of total employment, have only a small amount of wage employment.

The impact of the economic transition in Vietnam on the labour market has been dramatic. Government's policies resulted in a large shift of labour from the public to the private sector. In just four years, 1988 to 1992, over one million public sector employees (about one-fourth of its workforce) were laid off, of which about 85 percent was due to employment reduction in state enterprises. Private sector employment, in contrast, increased by 1.8 million people, or about 45 percent in the sector, over the same period (IMF, 1996).

TABLE 2.4
EMPLOYMENT BY ECONOMIC SECTORS

Unit: percentage of total employed

	1988	1990	1993	1994	1995	1996	1997
Agriculture and forestry	72.7	72.3	73.0	71.7	71.6	69.2	67.1
Industry and construction	14.1	13.9	13.4	12.9	12.6	12.3	12.5
Services	13.2	13.8	13.6	15.3	15.8	18.5	20.4
Total	100	100	100	100	100	100	100

Sources: IMF (1996) and IMF (1999b)

The distribution of the labour force in major industries has changed gradually since the reform with a decreasing share of agriculture, fisheries and forestry and an increasing share of the service sector. Employment in services has grown rapidly at the average growth rate of 5.6 percent per annum since 1986, outstripping agriculture's (0.4 percent) and that of industry and construction (4.0 percent) (Belser, 2000). As a result, the share of employment in the service sector increased continuously. Employment in the industrial sector remains fairly stable.

Over the past decade, most new entrants to the labour force have been absorbed by service sector. Employment creation in the industrial sector was modest. During the period 1992-1997, the industrial sector expanded at 13% per annum but industrial employment only grew by 4% per annum (Belser, 2000). This represents less than 30% of the rate of industrial growth. This rate is far below that of other Asian countries which followed export-oriented growth strategies during the last three decades.

Industrial employment in these countries increased at annual rates close to 80% of their industrial growth (Belser, 2000).

In short, despite a strong shift in output structure, changes in the structure of the labour market have been fairly small. The majority of the labour force are still self-employed in agriculture. As Vietnam continues industrialisation toward more labour-intensive industries, it is expected that agriculture will release more labour to the other two sectors, thus further transforming the structure of the labour force.

2.6 SOURCES OF OUTPUT GROWTH OF THE ECONOMY OF VIETNAM

The previous part provides an overview of the performance of the Vietnamese economy, its major sectors and their contribution toward GDP growth. It is tempting to define the main sources of that growth. Sources of output growth can be analysed from either the supply side or the demand side. On the supply side, there has been an attempt by Vo (2000) to allocate growth to factors of labour, capital and technological improvement. Vo (2000) found that most of the increase in GDP from 1976 to 1992 was due to an increase in the labour factor (58 percent). Capital accumulation contributed about 30 percent and the rest (12 percent) is attributed to technological factors. This result, according to the author, reflects fairly accurately the actual situation.

There has not been any work on the sources of output growth of the Vietnamese economy from the demand side. An analysis of demand sources of output growth in different periods will provide a deeper understanding of not only the relative importance of different demand sources but also of the process of trade liberalisation. An analysis of this type for the total GDP growth of Vietnam will be attempted in this section.

2.6.1 METHODOLOGY

This section investigates the sources of output growth of the Vietnamese economy from 1990 to 2000. Growth is classified by sources related to growth of domestic demand, exports and import substitution. The method used to determine these sources of growth is a modified version of Chenery's 1960 'Patterns of Industrial Growth', later refined by

Lewis (1969). In this method, import substitution is defined with reference to the proportion of imports in total supply. If domestic production rises more rapidly than imports, import substitution occurs, while if imports rise more rapidly than domestic output, the opposite of import substitution takes place (Lewis, 1969).

This method of measuring sources of output growth decomposes the change in output into three parts: the change in domestic demand (final and intermediate), the change in export demand and the change in import substitution. The formula used here is as follows:

$$\Delta X = u_1 \Delta(D+W) + u_1 \Delta E + (u_2 - u_1) Z_2 \quad (1)$$

where: ΔX is change in output

$\Delta(D+W)$ is change in domestic demand (final plus intermediate)

ΔE is change in value of exports

Z_2 is total availability (which is equal to domestic production plus imports) in year 2

u_1 and u_2 are the ratios of production to availability in year 1 and year 2 (X/Z).

In the formula above, the first term on the right shows the change in domestic output due to domestic final and intermediate demand, the second term shows the change due to export demand and the last term indicates the change due to import substitution.

This method is more often used to account for growth of value-added in individual sectors or industries. However, due to the high level of aggregation of the data, it is possible to analyse the sources of growth only in total domestic output, but not those of the major industries.

2.6.2 SOURCES OF DATA

The data used in this study are official data from various issues of the Statistical Yearbook of the General Statistics Office of Vietnam.

As the data required is not available for the years prior to 1990, it is impossible to investigate the sources of output growth before 1990. The studied period is thus from 1990 to 2000 and is divided into three sub-periods: 1990-1992, 1993-1997 and 1998-2000. There are some reasons for this split. First, output growth before 1992 was

modest and the impact of reform policies had not been fully realised. The year 1992 was the start of the high growth period which lasted until 1997. Thus the sources of growth of the period 1990-1992 would be expected to be different from those of the following years. From 1998 output growth declined sharply. As the Asian economic crisis started in the middle of 1997, it is worth separating the period after 1997 for a comparison of the sources of output growth before and after the crisis and some impacts of the crisis on these sources.

All data used in this study are at current market prices. Since we are more interested in the relative contribution of the sources in each period, the use of current market value does not distort the comparison. Also, as the lengths of the periods are not equal, it would not be meaningful to compare the absolute contribution of each source intertemporally.

2.6.3 RESULTS

Table 2.5 gives summary results of applying expression (1) to total output. The contribution of import substitution, export expansion and domestic demand are reported in absolute (billion Dong) as well as relative (percentage) terms.

TABLE 2.5
THE CONTRIBUTION OF DOMESTIC DEMAND, EXPORT EXPANSION,
AND IMPORT SUBSTITUTION TO OUTPUT GROWTH, 1990-2000

	1990-1992	1993-1997	1998-2000
Total domestic output changes	68,292 (100)	203,227 (100)	130,954 (100)
Domestic demand	47,361 (69.3)	161,726 (79.6)	76,491 (58.4)
Export demand	16,028 (23.5)	69,707 (34.3)	70,186 (53.6)
Import Substitution	4,904 (7.2)	-28,205 (-13.9)	-15,722 (-12.0)

Source: Computed by author

There are striking differences in the attribution of growth to the three sources. In all the three periods, domestic demand is the main driving force of output growth. This source contributed roughly 70 percent of output growth in the period 1990-1992, 80 percent during the high growth period 1993-1997 and 60 percent in 1998-2000 period. The main driver of output growth in this period was rapid growth in domestic demand in the mid 1990s as a result of rising real income and increased FDI inflows. The result confirms an IMF comment that the high economic growth of Vietnam was domestic-led (IMF, 1999a).

From 1993 to 1997, domestic demand expanded at an average annual rate of more than 30 percent (more than three times that of GDP), making the 1997 figure triple that of 1992 (Table 2.6). However, from 1997 there has been a sharp drop in the growth rate of this factor, resulting in a 20 percent fall in its contribution toward overall output growth and a consequent reduction in GDP growth.

The result, which shows the importance of domestic demand as a source of output growth, suggests that the fall in the growth rate of domestic demand (from more than 30 percent in average in 1993-1997 period to less than 11 percent in 1998-2000 period)⁴ is the main reason for the economic slowdown since 1997.

To reverse this trend of declining domestic demand, in 2000 the Vietnamese government adopted a number of demand-stimulus measures such as credit expansion, a 25 percent rise in public sector wages and rural investment. In addition, the new Enterprise Law has given rise to the registration of 7000 new firms, which is likely to increase private investment. These measures have raised domestic demand in 2000 by 13 percent (compared with a five percent rise in 1999), most of it coming from an increase in gross capital formation (ADB, 2000a). Private consumption, which is a major component of domestic demand, has not benefited much from the policy due to the reduced demand by the rural population and rose by a modest 7.8 percent. In 2000, farmers faced two great difficulties: damages caused by floods and the loss of income due to lower export prices. Lower international prices reduced the export values of five commodities – rice, coffee, cashew nuts, tea and peanuts – by US\$ 527 million. In addition, the prices of imported materials such as fertilisers increased, resulting in a

⁴ Computed from data in ADB (2001).

total loss of nearly US\$ 900 million, equalling 12 percent of 2000's value added in agriculture, fisheries and forestry (Duong Ngoc, 2000).

TABLE 2.6
STRUCTURE OF DOMESTIC DEMAND, 1990-2000

	1990	1992	1995	1997	2000
<u>In billion dong, at current market prices</u>					
Private consumption	35,559	88,943	168,492	225,084	296,000
Government consumption	5,177	6,371	18,741	25,500	28,300
Gross capital formation	5,272	19,498	58,187	83,734	130,800
Total domestic demand	46,008	114,812	245,420	334,318	455,100
<u>In percentage of total</u>					
Private consumption	77.29	77.47	68.65	67.33	65.04
Government consumption	11.25	5.55	7.64	7.63	6.22
Gross capital formation	11.46	16.98	23.71	25.05	28.74
Total domestic demand	100.00	100.00	100.00	100.00	100.00

Source: ADB (2000a)

The share of gross capital formation in domestic demand has increased significantly over the last decade, accounting for nearly 30 percent of total domestic demand. The contribution of this factor toward GDP growth also rose from 7.9 percent in 1990-1991 to its highest level during 1993-1997 (18.9 percent), and 16.6 percent in the later period⁵. However, in comparison with export, even at its highest level, the contribution of capital formation is far less than that of exports over the same time period (18.9 compared to 34.3), indicating that growth has been more export-led, rather than investment-led.

⁵ These are the result of further decomposition of domestic demand to private consumption, government consumption and gross capital formulation. Their contributions of gross capital formulation towards GDP growth equals their share in total domestic demand times the contribution of domestic demand to GDP growth. In relative terms, it equals the share in domestic demand times the percentage contribution of domestic demand to GDP growth.

Exports' contribution to GDP growth has risen continuously from 23 percent in the first period to 34 percent in the second period and 53 percent in the last period. These figures are much higher than those of other East Asian economies during their first decade of industrialisation. In Korea, the contribution of export demand to manufacturing output growth only ranged from 27 to 34 percent during 1970-1987 period (Song, 1990). The contribution of this source to Thailand's industrial output during the decade 1966-1975 was even lower, at between 6.5 and 8.5 percent (Krongkaew, 1995).

Comparing exports' contribution to GDP over the two periods 1993-1997 and 1998-2000, one should note that export growth in the later period was much lower than in the former, (16 and 28 percent respectively) but, because the growth of GDP and other sources in the later period were also lower, the contribution of exports became larger than in the previous period.

In the future, it is possible that export expansion will become more important as a source of output growth by Vietnam as the rapid growth of domestic demand in the mid 1990s is unlikely to happen again (ADB, 2000a).

Import substitution made a positive seven percent contribution to output growth before 1993. Although the selection of the benchmark years in this analysis is limited by data availability, it is expected that if required data were available for the years before 1990, import substitution would have been found to have made a positive contribution to GDP, as the import growth from 1986 to 1992 was less than proportionate to the output growth.

From 1993, trade liberalisation and the need for imported materials in production resulted in imports increasing much faster than domestic growth. In addition, a large part of FDI inflows during this period came in the form of imported machinery which added to high import growth. During this period, imports grew more than twice as fast as domestic production. This implies that negative import substitution occurred. If we assume that during the whole period 1986-1992, import substitution made a positive contribution, it then appears that, from 1993, Vietnam has moved gradually from an import-substituting economy to one based on export expansion.

In the years to come, as Vietnam further liberalises trade and expand exports, more imports will be needed as intermediate inputs for export production. Import substitution (by the definition used here) will therefore be unlikely to occur or have any significant impact on output growth.

2.7 SUMMARY

The chapter has presented an overview of the economic development of Vietnam since the reform. Overall the economy performed well during the fifteen-year period except for the slowdown in 1998 and 1999 as the result of the regional economic crisis. The structural shift in output, which occurred during the past fifteen years, has been strong. Agriculture – the largest sector before 1992 – has lost its share in GDP and became the smallest sector in terms of share in total output. On the other hand, both industry and services have grown rapidly and account for three quarters of the total output and contribute to more than 85 percent to GDP growth in 2000. However, with regard to employment, only a small fraction of agricultural employment has been transferred to industry and services; thus about two thirds of the workforce are still engaged in the agricultural sector.

An analysis of the sources of output growth on the demand side shows that domestic demand remained the main source of growth over the last decade. It is also likely that the economy has moved away from import substitution, but the question of the sustainability of import expansion remains, but is not dealt with in this chapter. Export expansion has become increasingly important and has contributed almost as much as domestic demand to GDP. The prospect of export expansion becoming the leading source of growth is possible in the near future. The next chapter will examine trade policy, the performance of exports and changes in the composition and market structure since the reform.

Chapter 3

VIETNAM'S TRADE POLICIES AND EXPORT PERFORMANCE, 1986 - 2000

3.1 INTRODUCTION

Part four of the previous chapter shows that as a source of output growth, exports play an increasingly important role relative to other sources. This result, to some extent, proves the success of Vietnam's economic reform, in which trade liberalisation is a major component.

In this chapter, the Vietnamese trade regime and its performance is studied in more detail with greater focus on exports. The purpose of the chapter is twofold. Firstly, it aims to provide a picture of the evolution of the trade system over time and the trade regime currently in place by summarising the major reforms undertaken in the trade sector since the start of the economic reform in 1986. Secondly, it attempts to give an overview of Vietnam's export performance over the period investigated to provide a basis for the empirical examinations in the next chapters.

The chapter begins with section 3.2 reviewing trade policy to date. This is followed by a description of the trade performance in section 3.3. Section 3.4 discusses export composition and structure over the last fifteen years. Finally, a summary of the chapter is provided in section 3.5.

3.2 REVIEW OF TRADE POLICIES

Over the last fifteen years, Vietnam's trade regime has undergone fundamental changes. Vietnam's trade regime has successfully been transformed from a largely closed-door economy to a market-based open one. The current trade regime incorporates both the characteristics of a developing country and those of an economy in transition. Hence, a review of trade policies cannot ignore the system that existed prior to the reform. As

described by the IMF, the pre-reform trade regime clearly reflected Vietnam's economic ideology at the time when the government was the sole performer of external trade.

Before the reforms, foreign trade in Vietnam was subject to central decisions by the planning authorities and could be carried out only by a small number of state trading enterprises. Domestic prices were isolated from the influence of international prices through a complex system of multiple exchange rates and trade subsidies. Exports were discouraged through overvalued exchange rates and low procurement prices, while imports were impeded by an extensive system of quotas and licenses. Isolated from the world market, Vietnam relied heavily on its former CMEA [Council for Mutual Economic Assistance] partners to obtain basic commodities, such as petroleum products and fertilisers, while exporters were obliged to fulfil CMEA quotas (arranged through a system of government-to-government protocols) before they were allowed to export to the convertible currency area (IMF, 1996:35).

As reforms began, Vietnam adopted an open-door policy. This policy acknowledges the importance of exports and foreign investment to economic growth. Priority was given to the development of goods for export as one of the cornerstones in the structural adjustment of the economy (Harvie and Tran, 1997). In implementing its outward-orientated strategy, Vietnam introduced some important steps to reform its external economic policies, including devaluing the currency and relaxing restrictions on exports and imports.

The current trade regime of Vietnam is based on three systems of control: enterprise controls (or control of trading rights), foreign exchange controls and commodity controls. In addition, trade is influenced by other domestic policies such as the application of special consumption taxes and turnover taxes which are discriminatory in nature, and industrial policies that explicitly or implicitly promote production of import substitutes or exportables. However, discussing these domestic policies is not within the scope of this section. This section looks at the evolution of the trade system based on the three components mentioned above. As an overall economic strategy, Vietnam's integration process will be summarised at the end of the section.

3.2.1 ENTERPRISE CONTROLS

Enterprise controls on trading activities have witnessed a turnaround in policy. After the removal of the central government monopoly in 1988, businesses, which were licensed by the Ministry of Trade (MOT) to conduct export and import activities, were allowed to directly participate in foreign trade. However, strict restrictions were placed on the types of businesses that were entitled to this license, such as requirements on minimum working capital and specification of the commodities that they were allowed to import or export (WTO, 1996:34). The restriction on working capital, in effect, rules out participation of small and medium enterprises and is in favour of large state-owned enterprises and foreign-investment enterprises. For enterprises with foreign capital, the right to engage in international trade is part of their business licenses. Only the range of goods that they are allowed to import (not export) remains constrained by the scope of activities identified in their business license (CIE, 1998:18).

TABLE 3.1
PARTICIPATION IN FOREIGN TRADE BY TYPE OF ENTERPRISES

Enterprise	Share of Enterprises in Trade (%)		Share of Exports (%)		Share of Imports (%)	
	Jul-98 ⁶	Jul 99	1997	1999 ⁷	1997	1999 ⁷
State-Owned Enterprises	38	27	70	57	68	53
Non State Enterprises	35	58	10	15	4	14
Foreign Investment Enterprises	27	15	20	28	28	33
Total	5100 enterprises	8177 enterprises	9145 \$ mil.	8175 \$ mil.	11622 \$ mil.	8225 \$ mil.

Source: MOT and General Department of Customs in World Bank (1999) Table 3.1

Note: the dollar sign (\$) refers to US\$

From late 1998, there has been relaxation in the entitlement of businesses to engage in foreign trade, and Vietnamese enterprises are no longer required to obtain a license from

⁶ Decree 57/CP/1998 on the Implementation of Trade Law became effective from August 15, 1998.

⁷ Related to 9 months trade value.

the MOT. They only need to register with the provincial or municipal Department of Customs to receive an appropriate identification code⁸.

The freeing-up of trading rights in 1998 paved the way for private companies to export their products and import intermediate inputs. Within a year from the issuance of the Decree, 3000 additional private enterprises registered and sought the Customs identification code. The share of domestic private enterprises in the total number of trading enterprises jumped from 35 percent in 1998 to 59 percent in 1999 and their share in total exports and imports increased to 15 percent (from 10 percent in 1997) and 14 percent (from 4 percent in 1997) respectively (Table 3.1).

In general, the current regulation on the right of an enterprise to import and export is mainly liberalised. The only restriction still in place is the linking of the range of imported goods with the business activities that needs to be approved by local People's Committees. With regard to exports, there is now virtually no restriction on enterprises' export rights. Enterprises are encouraged to export all potential exportables, regardless of their business activities.

3.2.2 FOREIGN EXCHANGE CONTROLS

Reform in the foreign exchange system started in late 1988 with a large devaluation of the Vietnamese currency to eliminate serious overvaluation of the official exchange rate. This move was followed by the unification of the multiple exchange rate system that existed prior to the reform. Controls on the retention of foreign exchange and the use of transfers from abroad are also liberalised, allowing firms to open foreign currency accounts, sell foreign exchange at prevailing exchange rates and use foreign transfers to pay for imported goods and services (CIE, 1998). In 1994, the interbank foreign exchange market and the trading floor at the State Bank of Vietnam (SBV) were established. These and other reforms in the banking sector have created a relatively liberal market-based exchange arrangement (IMF, 1996).

⁸ According to Decree 57/CP/1998 on the Implementation of Trade Law.

TABLE 3.2
MAJOR FOREIGN EXCHANGE REFORMS

<i>Year</i>	<i>Major reform measures</i>
1988	<ul style="list-style-type: none"> • <i>Foreign exchange control decree liberalises retention of foreign exchange, opening of foreign currency accounts and use of transfers to pay for imports and repay foreign loans.</i> • <i>Devaluation of trade and invisible payments exchange rates.</i>
1989	<ul style="list-style-type: none"> • <i>Foreign exchange rate system unified.</i>
1991	<ul style="list-style-type: none"> • <i>Foreign exchange trading floors opened at the SBV.</i>
1994	<ul style="list-style-type: none"> • <i>Introduction of interbank Foreign Exchange market.</i>
1996	<ul style="list-style-type: none"> • <i>Inward foreign exchange remittance tax lifted.</i>
1997	<ul style="list-style-type: none"> • <i>Forward and swap foreign exchange transactions authorised.</i>

Source: CIE, 1998

Vietnam's exchange rate system follows a regulated floating system. Before 1999, exchange rates were regulated by a parallel system of rates where the SBV imposed the official reference exchange rates and limited the deviation of the interbank market from those rates. Until the regional financial crisis and through much of the latter part of 1997, the Vietnam Dong remained very stable against the US Dollar, fluctuating by no more than five percent around the official reference rate. However, the Asian financial crisis put pressure on the Dong and forced the SBV to gradually devalue the Dong and allow a larger band for deviation. In late 1997, despite increasing the band to 10 and then 20 percent, the interbank rate moved to the upper limit and stayed there, resulting in further depreciation of the Dong in February 1998 (CIE, 1998: 31). From July 1997 to June 2001, the Vietnamese currency has depreciated by 21 percent against the US\$, This level of depreciation is the lowest compared with other ASEAN countries and the Dong is widely regarded as overvalued (Table 3.3).

TABLE 3.3
CHANGES IN EXCHANGE RATE
DURING JUNE 1997 AND JUNE 2001

Country	% Apprec.
Vietnam	-21
Philippines	-50
Malaysia	-34
Thailand	-44
Singapore	-22
Indonesia	-79

Source: Socio-economic Statistical Bulletin-UNDP

From 1999, the system of reference exchange rates was removed. Instead, the current interbank exchange rate is determined by forces of demand and supply but is not allowed to deviate more than 0.1 percent from the average rate of the previous day. This measure limits the devaluation of the Dong to a maximum of about three percent per month. The goal is probably to prevent abrupt devaluation in a short time. However, over a year, this can lead to a cumulative 44 percent devaluation of the domestic currency if the Dong keeps hitting its upper limit.

The Asian economic crisis adversely affected Vietnam's foreign exchange controls. In early 1998, in order to restrict enterprises' ability to hold foreign currency, the government issued a decision (Decision 37/1998/QD-Ttg) requiring enterprises holding foreign currency accounts to sell all currency in excess of estimated monthly requirements (known as the surrender requirement) and to close all but one foreign currency account. This action was regarded as a backward step in the process of foreign exchange reform (CIE, 1998:32) and caused confusion to enterprises and commercial banks. As the level of foreign reserves improved, the amount required to be converted to Dong was reduced gradually to 80 percent, 50 percent and recently 40 percent⁹ of the revenue in foreign currency. In addition to the surrender requirement, strict regulations

⁹ Decision 61/2001/QD-TTg, effective from May 2001.

remain on an importer's access to foreign currency and on a foreign investor's transfer of capital to and from Vietnam¹⁰. The SBV's effort to stabilise the Dong in the aftermath of the crisis has resulted in an overvalued currency that has in past years benefited importers while adversely affecting the competitiveness of local products¹¹.

3.2.3 COMMODITY CONTROLS

Commodity control is the most important type of control amongst the trade management system. The commodity controls covered in this section are measures that restrict import and export of goods in a discriminatory manner.

As previously mentioned, under the central planning system the types and amount of goods to be imported and exported were determined by the planning body. A few state-owned trading enterprises were allocated quotas to import and export goods at agreed prices. The quota is thus the main instrument used to control trade.

In 1988, the Law on Import and Export Duties was introduced. This law, for the first time, provided for the formal application of tariffs. Trade liberalisation has since involved, among other things, the tariffication of non-tariff barriers and the reduction and simplification of the tariff system. The tariff system together with the quota system formed a complex barrier to foreign trade. The level of controls ranges from prohibitions, quantitative targets/limits, authorisation and/or approval by specialised agencies to the imposition of different tariff rates. These types of controls are enforced by measures such as the introduction of the list of goods prohibited for import or export; import-export quotas or permits; annual import plans and import shipment licenses. The list of commodities under each type of control changes each year due to specific circumstances (CIE, 1998:35). The following part summarises important features of commodity controls, both tariff and non-tariff barriers, on imports and exports.

3.2.3A Non-Tariff Barriers

Exports

¹⁰ Circular 04/2001/TTNHNN of 18 May, 2001.

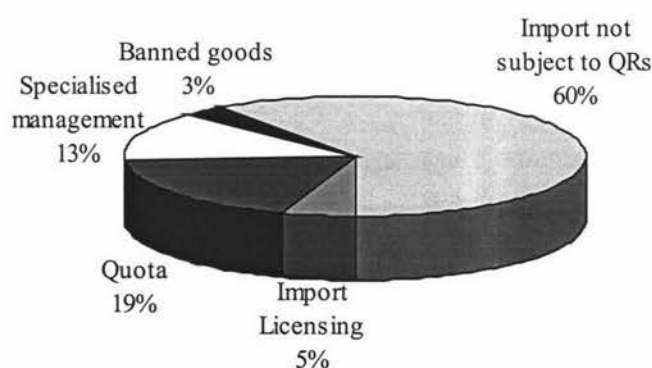
¹¹ According to a survey by the Saigon Times of large importers and exporters in Ho Chi Minh City about the central bank's foreign exchange policy (Saigon Times, 05 Jan 2001).

As far as exports are concerned, the prohibition usually reflects security and cultural objectives. Export quotas have been terminated for all export commodities but rice with the application of quotas on rice exports attributed to food security. Another group of commodities subject to export limits is textiles and garments. Quotas for this group are determined under bilateral agreements with the European Union, Norway and Canada and allocated to exporters by the Ministry of Trade. While the imposition of quotas on garments and textiles is involuntary, the process of quota allocation itself has been under criticism as quotas are allocated based on a firm's past performance, clearly favouring large and long-established firms. Quota auctions have been applied in the past few years but only a proportion of available quotas are auctioned. In addition, the private sector's participation in the quota auction is limited.

Imports

The quantitative restriction (QR) of imports is more diverse. In 1998, QRs covered two-fifths of imports and a third of domestic production. The aim of quantitative restriction is to restrict the import of items that are considered to be strategic to the economy and to ensure that imports plus domestic production are equal to predicted domestic demand. Examples of strategic goods are petroleum products, fertilisers, cement, sugar and steel (CIE, 1999).

FIGURE 3.1
IMPORT COVERAGE OF IMPORT RESTRICTION



Source: World Bank, 1999

Goods under quantitative restriction can fall into four main groups: goods subject to import licensing and quotas, goods subject to specialised management and goods banned from import due to non-trade reasons (World Bank, 1999). Figure 3.1 presents the distribution of goods imported under these types of control. This distribution shows that 40 percent of imported goods are controlled by quantitative measures. Quotas and specialised management are the most common measures to quantitatively control imports

3.2.3B Tariffs

Tariffs were first imposed in Vietnam in 1988 when the Law on Import and Export Duties was issued. Since then, there have been significant developments in the tariff system, notably the reduction of the average tariff, the number of tariff lines and the maximum tariff rate. Tariffs are applied to both imports and exports, though the level of protection and objectives are different between these two uses.

Exports

Export tariffs were imposed on a range of primary products and raw materials. In 1997, there were 11 different tariff rates ranging from 1 to 45 percent (CIE, 1998). The objectives are often to raise revenue, to protect scarce natural resources and to insulate domestic consumers (including producers) from price rises due to increases in export demand. These objectives vary between products and time periods. The range of products as well as the tariff rates are revised frequently to capture changes in domestic and international markets. In 1998, export taxes on a number of products were eliminated¹². By the end of 1999, export taxes were only applied to cashew nuts, mineral ores, crude oil, scrap metal and wood products (World Bank, 1999).

Imports

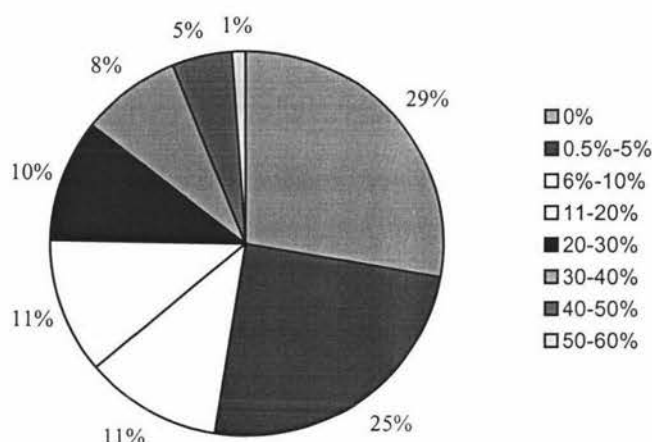
The tariff system for imports is more complicated. Despite efforts to simplify the tariff system, there remain 3280 tariff lines (as at June 1998) ranging from 0 to 60 percent. The average tariff rate was 13.6 percent in Feb 1998¹³.

¹² The products are as follows: fish and crustaceans, maize, rice, coal, natural rubber, raw hides, skins and leather (World Bank, 1999a).

¹³ According to Vietnam's Individual Actions Plan submitted for APEC.

Figure 3.2 shows that 29 percent of imports are duty free and 25 percent subject to tariffs ranging from 0.5 to 5 percent. Only 1 percent of imports are subject to the maximum tariff rate. The tariff structure follows the pattern that tariffs on inputs are at very low rates, often zero, while those on outputs are frequently at high rates.

FIGURE 3.2
IMPORT STRUCTURE ACCORDING TO TARIFF RATES (as at Feb 1998)



Source: CIE, 1998

The current tariff system remains complex. Tariffs are changed quite often and an official consolidated tariff schedule is published only occasionally. It is, therefore, not easy for traders and customs officials to keep track of the prevailing tariff. In many cases, the tariff rate for the same goods differs depending on the end use, who is importing them and who is using them. Besides, frequent exemption from duty exists on a project by project basis (CIE, 1999).

In short, it can be seen from the picture of the trade system described above that although there has been significant developments in the system, there are still much to be done to bring the system into line with those of other countries in the region.

3.2.4 TRADE PREFERENCES AND REGIONAL TRADING ARRANGEMENTS

Trade reform measures, as discussed in previous sections, have been largely unilateral. Opening up the economy to foreign trade and investment is seen as a crucial contributor

to achieving key goals of the reform. In addition to unilateral reform, the Government of Vietnam has also sought to become and remain open by joining regional and multilateral trade and economic integration arrangements. In July 1994, Vietnam was granted observer status at the WTO, and in January 1995, it formally applied for WTO membership. Shortly afterwards, in July 1995, it became the seventh member of ASEAN and later signed the Protocol of Accession to AFTA in 15 December 1995. In November 1998 Vietnam was admitted to membership of the Asia-Pacific Economic Cooperation (APEC) forum.

TABLE 3.4
THE CHRONOLOGY OF VIETNAM'S MAJOR TRADE ARRANGEMENTS

Date	Events
December 1992	Signed Trade Agreement with the European Economic Community (now the EU)
January 1995	Applied for WTO Accession
July 1995	Became ASEAN Member
December 1995	Became AFTA Member
November 1998	Became an APEC Member
July 2000	Signed Bilateral Trade Agreement with the US

Membership of ASEAN has been by far the most extensive engagement of Vietnam in a trading arrangement after CMEA. As a member of AFTA, it is committed to reducing tariffs on imports from ASEAN countries to 0 to 5 percent by 2006 on a wide range of industrial and agricultural commodities under the Common Effective Preferential Tariff (CEPT) Scheme. Vietnam has also committed to eliminate non-tariff barriers on goods covered by CEPT and to harmonise customs, investment regulation and standards regulations and procedures (CIE, 1998:13).

To meet its AFTA commitment, the Vietnamese Government has adopted a detailed roadmap for tariff reductions and the phasing out of quantitative restrictions vis-à-vis

ASEAN countries between 2001 and 2006. The main characteristics of this AFTA road-map include:

- ♦ Overall tariff reduction: Tariffs on the vast majority of tariff lines (about 95 percent) on ASEAN imports will be reduced to at most 20 percent by the start of 2003 and to 0 to 5 percent by the beginning of 2006.
- ♦ Tariff reduction on manufactures: By early 2004, average tariffs on manufactures imported from ASEAN countries will be cut by 50 percent.
- ♦ Reduced average tariffs: By early 2004, average tariffs on ASEAN imports of textiles, leather and wood products, non-metallic mineral products and food products will fall by more than 60 percent (UNDP, 1998).

In addition to signing multilateral trade agreements, Vietnam has also signed various bilateral trade agreements with its trading partners. Among them, the Agreement on Textiles and Garments Trade between Vietnam and the European Union and the US-Vietnam Bilateral Trade Agreement can be considered as having the most significant impact on Vietnam's trade.

The preferential trade agreement with the European Economic Community (now the EU) was signed in 1992. This agreement provides Vietnam with quotas to export textiles and clothing to Europe and for tariff concessions on imports of similar goods from European producers.

The US-Vietnam Trade Agreement, signed in July 2000, is considered the last step in the process of normalisation of Vietnam-US relations. This agreement gives Vietnamese goods equal treatment with goods from other countries in the US market. As a result, Vietnamese exporters could benefit greatly, with tariff rates averaging 40 percent being cut to less than 3 percent (ADB, 2000a:26). In return, the agreement provides US exporters and investors with greater market access to agricultural and industrial goods and various service sectors, and increased protection of intellectual property rights in Vietnam.

The schedule to implement the US Trade Agreement has been outlined. Over a period of three to seven years, Vietnam will cut tariff rates and reduce non-tariff barriers over a

wide range of products, open up areas of the service sector to greater foreign investment and generally ease investment rules. Current tariff rates on a limited range of industrial and agricultural items (about 250) will be reduced by 30 to 50 percent over three years. QRs will be removed in three to seven years on most products.

In short, Vietnam has so far implemented extensive trade reform measures to create a more liberal trade system. Participation in ASEAN, APEC and the application for WTO membership constitute the cornerstones for the development of its trade policy in the coming years. Meeting membership obligations and commitments will require further reform of foreign exchange policies and the reduction and simplification of the system of commodity controls. This is a great challenge for Vietnam, but its completion will provide Vietnam with a better position to continue its economic integration into the world.

3.3 TRADE PERFORMANCE

3.3.1 IMPORT AND EXPORT GROWTH

TABLE 3.5
BASIC INDICATORS OF TRADE PERFORMANCE

	1986	1990	1995	1998	2000
Export value (US\$ mil.)	789	2404	5449	9356	14449
Import value (US\$ mil.)	2155	2752	8155	11500	15635
Trade balance (US\$ mil.)	-1366	-348	-2706	-2144	-1186
Trade deficit/GDP (%)	-	-	11.1	7.9	2.8
Openness (% Trade/GDP) ¹⁴	-	53	54	81	94
Export per capita (US\$)	13.12	36.51	76.22	124.61	184.14
Manufacture export (US\$)	36.4	30.0	32.7	46.44	-

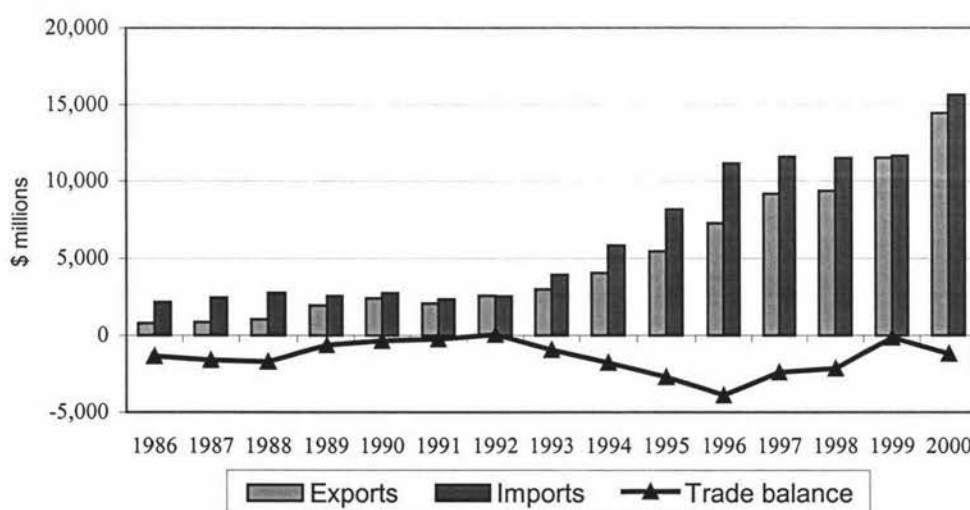
Source: GSO and World Bank (for openness), various years.

¹⁴ The figure for 1990 is for 1991 since 1990's figure is not available.

Since the start of economic reform more than a decade ago, Vietnam's trade has expanded immensely. From 1986 to 2000, total export and import value grew at an average annual rate of more than 20 percent. As a result, export and import values in 2000 were about eighteen times and seven times those of 1986, respectively. This growth rate is remarkable even though it was from a low starting point. From 1995 to 2000, the share of total imports and exports to GDP, as a proxy for the degree of openness, rose from 0.54 to 0.94¹⁵. Vietnam's exports per capita were also augmented by 14 times from 1986 to 2000 (Table 3.5).

This achievement of high export and import growth has been recorded in a period when external conditions were not all favourable. The collapse of the former Soviet Union and other socialist countries in Eastern Europe in the early 1990s severely affected Vietnam's trade. Vietnam's major export markets were lost almost overnight. As a consequence, export and import values in 1991 fell by 13.2 and 15 percent respectively. The loss of traditional export markets forced Vietnam to shift its exports towards convertible-currency markets, mostly East and Southeast Asia and Western Europe. These regions became Vietnam's key export destinations during the 1990s.

FIGURE 3.3
VIETNAM'S TRADE PERFORMANCE: 1986-2000



Source: Extracted from the data in Table 2.1.

¹⁵ In 1999, the degree of openness of Vietnam was greater than China's (54%), Indonesia (81%), but smaller than that of Malaysia (333.7%), Philippines (191%), Thailand (171.2%), and Singapore (739.5%) (World Bank).

From 1992 to 1997, Asian and Western European markets were responsible for more than 80 percent of Vietnam's exports and imports. During this period, both exports and imports grew at very high rates (averaging 28 and 32 percent respectively). This period, as mentioned in the last chapter, is often referred to as the high-growth period when GDP and FDI growth rates were also at their peaks.

Unfortunately, the Asian crisis interrupted Vietnam's trade expansion. From late 1997, most of Vietnam's major trading partners in the region experienced economic difficulties. The adverse effects on Vietnam can be seen through the fall in import demand¹⁶ and FDI commitment from these countries and the worsening of the competitiveness of Vietnamese products as a result of large currency depreciation in neighbouring countries. In 1998, exports increased by a sluggish two percent, while imports dropped three percent.

TABLE 3.6
VIETNAM EXPORTS 1999 AND 2000

Unit: Percentage

	Export value Growth rate		Share in total export		Contribution to export growth	
	1999	2000	1999	2000	1999	2000
Oil exports	69.7	67.5	18.2	24.3	39.4	48.0
Non-oil exports	16.3	16.1	81.8	75.7	60.7	52.0
Of which:						
Agriculture	5.6	-9.8	19.0	13.7	5.3	-7.2
Seafood	16.5	55.5	8.3	10.2	6.1	17.9
Manufactures	32.5	15.6	33.8	36.7	43.8	48.0
of which:						
• Garment	39.3	8.3	15.2	13.1	18.1	4.8
• Footwear	23.5	33.4	12.1	10.1	17.9	2.4
• Electronics, computers	23.5	33.4	5.1	5.4	5.1	6.6
Other exports	5.8	33.6	20.7	15.1	5.7	-6.8
Total Exports	23.4	25.4	100	100	100	100

Source: World Bank (2000a) and World Bank (2001a)

It is, however, astonishing that exports recovered strongly in 1999. In 1999, Vietnam's exports grew by an impressive 23.4 percent, much faster than in most other Asian

¹⁶ For details of the reduction of import demand, see table 4.5

countries. Oil exports made a large contribution, 40 percent to total export growth¹⁷. However, even if the value of oil exports had remained identical to that of 1998, total exports would have risen by 14.2 percent due to the growth rate (16.3%) of non-oil exports which accounts for the remaining 60 percent of export growth. Two-thirds of the non-oil sectors' contribution came from exports of three major manufactured goods: garments and textiles, footwear and electronic and computer goods (World Bank, 2000a). Expanding trading rights and the access of private enterprises to foreign trade are believed to be the important factors leading to this high growth of non-oil exports. Depressed by tighter foreign exchange controls, low FDI inflows and modest domestic spending, the level of import in 1999 stayed at the same level as in 1998.

In 2000 total export earnings grew by 25.4 percent, led by oil, with non-oil exports expanding by a robust 16 percent, the same as in 1999. While export performance in 2000 is fairly similar to 1999, the US dollar value of imports in 2000 soared after two years of almost no change. This is partly due to a rise in petroleum product prices but also due to volume increases. In addition, the lifting of import restrictions imposed in 1998 and 1999 due to lower foreign investment inflows and weak export performance, led to significantly higher non-oil import growth (World Bank, 2001a).

3.3.2 CURRENT ACCOUNT BALANCE OF PAYMENTS

Except for the setbacks in 1991 and 1998 due to unfavourable external conditions, Vietnam's exports and imports have been enjoying high growth since the mid-1980s. Imports, however, have been constantly larger than exports resulting in permanent current account deficits. The trade gap was the largest between 1993 and 1997 peaking at 13 percent of GDP in 1996¹⁸. High import demand during this period was due to both rising incomes and large inflows of FDI that required imported machinery and inputs for production. During this period, large trade deficits were financed by substantial injections of foreign savings. This raised concerns about the country's vulnerability to possible future shocks. The World Bank (1996a) and Kokko (1997) described the external account deficit as being unsustainable. It is argued that Vietnam's continued

¹⁷ Value of oil exports grew nearly 70 percent in 1999, most of which was due to rocketing oil prices. The changes in oil prices alone is said to account for more than one quarter of Vietnam's export growth in 1999 (World Bank, 2000a).

¹⁸ Computed from Table 2.1.

reliance on large overseas capital inflows can lead to 'Dutch disease' and crowd out domestic investment (Kokko, 1997). In addition, future trade liberalisation (reduction in effective rate of protection) may adversely affect profit expectations amongst foreign investors, thus slowing FDI inflows (Vu et al, 1996). On the other hand, Irvin et al (2000) claimed that the problem might be self-correcting as capital inflows are directed mainly to investment where public and private investments are complementary and investment efficiency increases.

Furthermore, there have been concerns that the Vietnamese government's reaction to the trade deficit may deter the process of trade liberalisation. In fact, as the Asian crisis occurred, it put more pressure on Vietnam's trade balance as both FDI, the main source of financing the trade deficit, and demand for Vietnamese goods dropped dramatically. To avoid an external deficit, the Government imposed additional import restrictions which, together with slowing domestic demand, led to a decrease in the value of imports in 1998. These restrictions were recently loosened as confidence returned and the economy started to recover.

3.4 COMMODITY COMPOSITION AND MARKET STRUCTURE

One important aspect of Vietnam's export success is reflected in the changes in export commodity composition and market structure. The discovery of oil and emergence of rice, coffee and light manufactured exports have resulted in a different composition of Vietnam's exports. The dissolution of the CMEA and the consequent move to Asian and Western European markets also created a totally new map of Vietnam's export markets. The following section looks at these changes during the period of the study and especially the resulting alteration in the level of product and market diversification of exports during the same period.

3.4.1 COMMODITY COMPOSITION

Table 3.7 shows the commodity diversification indices of Vietnam's exports for selected years. The indices are calculated by means of the equivalent number¹⁹. The

¹⁹ The equivalent number (EN) is the inverse of the Herfindal index ($EN=1/Herfindal$).

equivalent numbers show the number of exported goods of equal importance that would lead to the same concentration of exports. The bigger the index, the greater the diversification of exports, thus the less vulnerable or dependent the level of exports is to a few commodities.

TABLE 3.7
COMMODITY DIVERSIFICATION OF VIETNAM'S EXPORTS 1986-2000

	1986	1988	1990	1992	1995	1998	2000
Commodity diversification	30.46	16.10	12.47	6.79	10.49	12.35	9.46

Source: Calculated by author from data from GSO.

In calculating the commodity diversification indices, consistent definition of the commodity and/or the market is crucial as different definitions may yield materially different results. With the intention of intertemporal comparison, the same classification based on the GSO's data is used throughout the calculation of the equivalent numbers in these sections. It should be noted that unless the same definition is used, cross-country comparison of these diversification indices could be misleading.

Table 3.7 shows relatively high equivalent number for Vietnam's commodity composition before 1990. Theoretically, the bigger the index, the greater the diversification of exports, thus the less vulnerable or dependent exports are to changes in market conditions of the number of commodities. Although there is no rule of thumb for this index, a very high diversification index is not desirable for small countries as it shows that the country exports too many products, none of which has significant export value (Michaely, 1962). For a small country, large dispersion implies that resources are not devoted to industries that the country does best. It also shows low levels of specialisation. This situation is exactly that of Vietnamese trade before 1990 when no single export item accounted for much more than ten percent of total exports.

From the 1990, oil became the major export earner together with rice, garments, seafood and coffee. These five products dominated Vietnam's exports in the 1990s, resulting in low commodity diversification. As the equivalent number is highly sensitive to important products, high export concentration on a few commodities reduced the equivalent number significantly. On the one hand, a lower equivalent number for

Vietnam's exports ascertain that Vietnam has established some key export commodities that are competitive in world markets and increased its specialisation in products in which it has comparative advantage. On the other hand, the fact that the five largest export products account for about 60 percent of total exports in the second half of the last decade reveals a high level of vulnerability to external shock.

Figure 3.4
Export Commodity Composition 1985

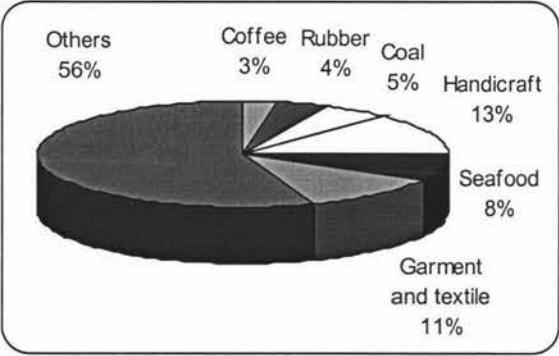


Figure 3.5
Export Commodity Composition 1990

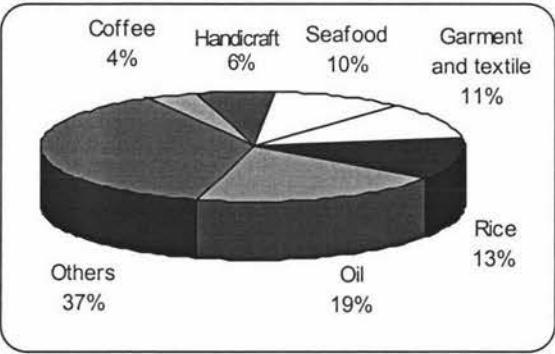


Figure 3.6
Export Commodity Composition 1995

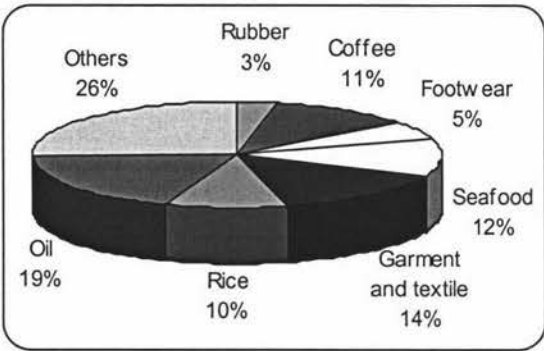
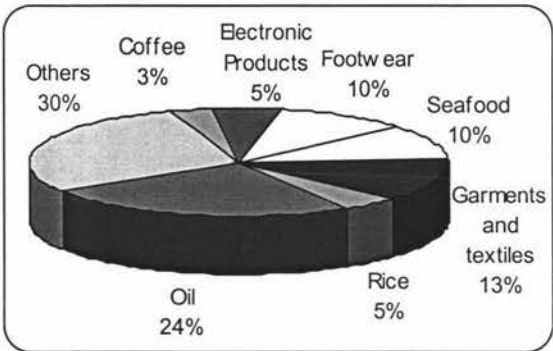


Figure 3.7
Export Commodity Composition 2000



Sources: 1985-1995: GSO (1997) *Historical Trade and Price Data 1985-1995*
2000: GSO, in *Vietnam Media Reports*²⁰

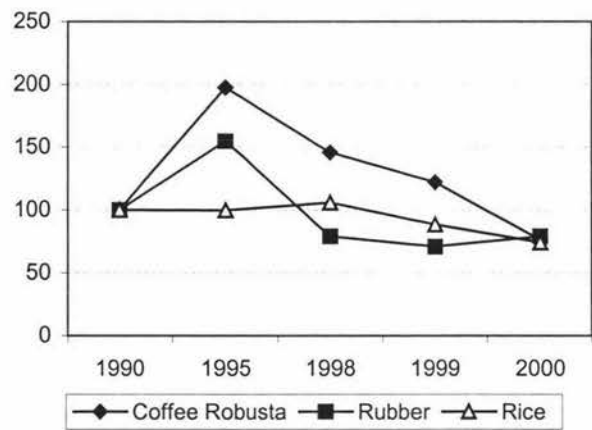
Figures 3.4 to 3.7 show the export commodity composition in selected years. It is clear that Vietnam's exports are composed of mostly agricultural, mineral and labour-intensive manufactured products. Since the early 1990s, Vietnam has started to exploit its comparative advantage in low value-added labour-intensive manufactures, with the share of light manufactured exports increasing rapidly. The development of light manufactured exports benefited greatly from recent trade reform, especially from

²⁰ Vietnam Media Reports website address: www.intellasia.com

increasing private firms' participation in foreign trade and the country's increased access to European and American markets. The conclusion of the US-Vietnam Trade Agreement opens prospects for Vietnam's manufactured goods as they no longer suffer from high tariff rates. Exports of clothing to the US market is estimated to increase fifteen-fold from the level of 1995 (Fukase, 2000).

On the other hand, the relative proportion of agricultural exports is predicted to decline. Figure 3.8 shows declining prices for Vietnam's most important agricultural exports from 1990 to 2000. Depressed world prices of agricultural commodities dampened the growth of agricultural export earnings. This has made production of some commodities unprofitable, thus resulting in reduced production.

FIGURE 3.8
DETERIORATING COMMODITY PRICES (1990 index=100)



Source: World Development Indicators, 2001

3.4.2 CHANGING REVEALED COMPARATIVE ADVANTAGE

A brief look at Vietnam's export composition in the previous section demonstrates that it has shifted. On theoretical grounds, this would indicate that comparative advantage has shifted from some products to others. Although the link between trade specialisation and comparative advantage is widely accepted, it is difficult to quantify and test directly. Ideally, to see whether or not Vietnam's comparative advantage has shifted from some products to others, we would need relative prices under autarky at the two

points of comparison (Maneschi, 1998). These, however, are not observable. Despite the difficulties, there have been various attempts to use information derived or revealed from post-trade situations to assess comparative advantage, that is to 'measure' revealed comparative advantage (RCA). The measure of 'revealed comparative advantage' was first used by Balassa (1965). Since then RCA has been applied in numerous reports (e.g. UNIDO, 1986; World Bank, 1994) and academic publications (Aquino, 1981; Crafts and Thomas, 1986, van Hulst et al, 1991; Lim, 1997), as a measure of international trade specialisation.

Revealed Comparative Advantage (Balassa, 1965) can be defined as

$$RCA_{ij} = \frac{X_{ij} / \sum_i X_{ij}}{\sum_j X_{ij} / \sum_i \sum_j X_{ij}}$$

where X_{ij} are the exports of good i from country j .

In the identity above, the numerator represents the percentage share of a given good in national exports. The denominator represents the percentage share of a given good in world exports. The RCA index thus contains a comparison of national export structure (the numerator) with the world structure (the denominator). When the RCA is equal to 1 for a given good in a given country, the national export share of that good is identical with the world average. Where the RCA is above 1, the country is said to reveal comparative advantage and specialise in that good. A RCA of less than one would show the opposite.

Based on this formula, Table 3.8 presents the RCA for selected exports from 1986 to 2000 at the three-digit SITC level. The list is by no means exhaustive. It only includes major exports and those goods exhibiting a clear trend. There is no precise distinction between groups with increasing or declining RCA, and those with stable RCA.

It is apparent from Table 3.8 that Vietnam revealed its comparative advantage in different goods in 1998 compared with 1986. Goods with the highest RCA in 1998 were rice, coffee, footwear, travel goods and handbags; while those in 1986 are fresh and simply preserved fish, crude animal matters, crude vegetable materials, oil seeds, nuts and tea. It can be noted that all commodities with declining RCA are primary while more than half of those with increasing RCA are manufactured. This seems to suggest

TABLE 3.8
CHANGING REVEALED COMPARATIVE ADVANTAGE

Commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	Increasing RCA												
032 FISH ETC TINNED PREPARED	1.45	4.89	5.47	4.86	4.44	4.89	3.81	3.05	4.38	4.16	4.45	5.13	4.40
042 RICE	1.55	4.52	2.44	86.11	95.68	62.54	42.88	28.75	48.03	29.63	47.45	30.67	45.50
071 COFFEE	8.36	13.00	9.87	10.45	12.46	8.90	11.61	13.64	26.53	32.69	20.87	19.84	25.54
331 CRUDE PETROLM ETC		1.27	2.26	3.11	4.23	4.83	4.27	4.64	4.54	4.05	4.28	3.95	5.47
666 POTTERY	0.71	1.49	1.50	1.30	1.69	3.15	3.20	4.63	5.88	5.23	5.72	6.01	7.10
687 TIN	1.74	1.27	0.59	2.14	6.67	27.51	29.35	24.21	14.78	12.16	10.48	6.86	5.54
831 TRAVEL GOODS HBAGS	0.00	0.00	0.41	0.14	0.50	2.27	4.03	7.57	10.40	9.81	11.94	12.91	11.44
841 CLOTH NOT FUR	3.09	1.96	1.65	2.03	1.95	2.44	3.50	4.01	4.54	4.35	5.39	4.72	4.22
851 FOOT WEAR	1.33	1.07	1.21	1.53	0.74	0.56	1.65	5.14	9.73	11.35	18.03	24.28	25.45
	Declining RCA												
031 FISH FRESH SIMPLY PRESVD	38.69	39.09	42.33	23.99	21.20	18.45	10.50	11.21	12.90	9.70	10.76	10.59	10.28
05 FRUIT AND VEGS	3.54	3.71	2.17	2.42	1.92	2.06	1.52	1.29	1.82	1.34	1.24	1.16	1.15
074 TEA MATE	10.25	8.24	9.88	6.14	5.43	3.51	4.94	5.28	6.13	4.71	6.30	4.83	4.48
221 OIL SEEDS NUTS KERNLS	15.87	9.85	11.30	5.61	7.90	13.71	4.97	6.45	7.32	4.22	3.64	1.15	0.80
282 IRON STEEL SCRAP	13.59	13.08	16.22	34.60	20.63	11.51	2.35	0.49	0.51	0.25	0.09	0.00	0.00
291 CRUDE ANIMAL MATTER NES	32.88	24.59	18.40	11.82	15.14	11.86	5.97	4.88	5.40	4.61	4.48	1.80	1.41
292 CRUDE VEG MATRLS NES	16.27	14.88	15.11	4.76	5.23	5.33	2.39	2.84	1.67	1.54	1.52	1.08	0.65
	Stable RCA												
075 SPICES	19.25	38.82	20.44	23.01	12.45	14.90	13.47	17.52	25.08	21.39	25.21	25.70	18.31
231 RUBBER CRUDE SYNTH	2.96	1.20	1.20	3.76	5.18	2.25	1.83	3.33	4.75	4.79	3.91	4.30	4.45
321 COAL COKE BRIQ	5.41	2.65	2.34	3.12	1.74	8.88	4.45	3.86	4.18	3.20	3.54	3.69	2.85

Sources: NAPES database

that Vietnam's trade specialisation has been moving toward manufactured exports. This observed trend is also found at product level. For example, the RCA of fresh and simply preserved fish (SITC code 031) declined from 38.7 in 1986 to 10.3 in 1998 while the RCA of tinned and prepared fish (SITC code 032) had gone up from 1.6 in 1986 to 4.4 in 1998. Again, this indicates that Vietnam's fish exports are moving from unprocessed to processed fish.

The changing RCA of Vietnam over the past fifteen years has been largely the result of Vietnam's industrialisation and trade liberalisation process. On the supply side, the new industrialisation policy shifted investment priorities from heavy industries to production of consumer goods and exportables. Increased private and foreign investment in these industries, which are encouraged under the reform policy, boosted production and productivity of products in which Vietnam is doing well, such as clothing and footwear. On the demand side, the collapse of the CMEA and Vietnam's active search for new export markets have changed the structure of export market and thus the demand for Vietnamese products. Exports that used to meet the need of CMEA members no longer have their markets secured, and thus they do not reveal comparative advantage. At the same time, some products may receive stronger demand from new markets. Resources are transferred from the production of goods of low demand to those of high demand. Together, changes in both supply and demand conditions have created a new trade pattern for Vietnam, hence a new pattern of comparative advantage.

3.4.3 MARKET STRUCTURE

The market diversification indices of Vietnam's exports from 1986 to 2000 are presented in Table 3.9. The calculation and interpretation of market diversification index are similar to those of the commodity diversification index.

TABLE 3.9
MARKET DIVERSIFICATION OF VIETNAM'S EXPORTS 1986-2000

	1986	1988	1990	1992	1995	1998	2000
Market diversification	6.77	6.09	5.37	6.98	9.95	16.41	14.73

Source: Calculated by author from data from GSO.

It is clear that Vietnamese export markets are more diversified from the second half of the 1990s. Vietnam's export structure before the 1990s was unusual as it concentrated mainly on Eastern European markets. The huge markets of the rest of the world were almost untapped by Vietnamese exporters. During the period 1986 to 1990, Eastern Europe absorbed more than half of Vietnam's exports. As a result, the equivalent numbers of export markets during this period were rather low, averaging about six. After the collapse of the socialist countries in Eastern Europe, Vietnamese exports to this area contracted substantially to less than five percent of total exports in the second half of the 1990s. This loss was, however, offset by increased exports to European and Asian markets, especially East and Southeast Asian countries (Table 3.10).

TABLE 3.10
VIETNAM'S EXPORT DISTRIBUTION BY REGION

	1985	1990	1993	1995	1998
TOTAL	100.00	100.00	100.00	100.00	100.00
Asia	22.55	43.28	72.76	72.39	58.46
South East Asia	9.00	14.50	21.53	20.41	21.58
Eastern Asia	12.82	26.94	49.68	50.58	33.92
Other Asian Countries	0.73	1.84	1.55	1.41	2.96
Europe	56.64	50.55	13.70	18.04	27.94
Eastern Europe	52.73	44.30	5.51	2.84	2.52
Other European countries	3.91	6.25	8.20	15.20	25.43
America	1.80	0.65	1.40	4.37	7.04
North America	0.00	0.15	0.20	3.44	5.86
Middle and South America	1.80	0.51	1.20	0.93	1.18
Africa	0.01	0.17	0.22	0.70	0.60
Australia and New Zealand	0.46	0.32	1.84	1.04	5.31
Others	18.54	5.03	10.07	3.45	0.65

Sources: General Statistical Office, various years

Table 3.11 presents Vietnam's export distribution by major export markets. Japan remains the largest export market for Vietnam. The main export items to Japan are

seafood, garments and crude oil. China, with its large market and favourable geographical location, is now becoming an important destination for Vietnam's exports, ranking second in 1999 and 2000. Trade links with Australia have been strengthened recently. In 2000, Australia accounted for nearly 9 percent of Vietnam's total exports and became Vietnam's third largest market. Until 2000, exports to the US were modest, accounting for only five percent of Vietnam's total exports. With the signing of the bilateral trade agreement between the two countries in July 2000, it is predicted that the increase in exports to the US would be around US\$ 750 million per year, which compares favourably with the export value of US\$ 500 million in 1999 (Fukase and Martin, 2000). ASEAN, as a group, absorbs more than 20 percent of Vietnam's exports. Trade with ASEAN is facilitated by close geographic proximity and the preferential treatment within the ASEAN Free Trade Area. Main export commodities to ASEAN include crude oil (to Singapore, Indonesia and Malaysia) and rice (to Indonesia, Singapore and the Philippines).

TABLE 3.11
VIETNAM'S EXPORT DISTRIBUTION BY
MAJOR EXPORT MARKETS 1986-2000

Unit: Percentage of total

1986-1990				1992-1995			1998-2000		
Market	1986	1988	1990	Market	1992	1995	Market	1998	2000
Russia	35.80	38.27	38.26	Japan	32.31	26.81	Japan	16.19	18.33
Japan	4.31	5.84	14.16	Singapore	15.56	12.66	China	5.24	10.72
Hong Kong	5.76	6.29	10.12	China	3.71	6.64	Australia	5.13	8.89
Singapore	8.08	5.91	8.09	Hong Kong	7.81	4.71	Singapore	11.81	6.19
France	2.37	2.94	4.81	Korea	3.62	4.32	Taiwan	7.28	5.28
Czech Rep.	3.65	3.40	2.03	Germany	1.33	4.00	The U.S.	5.13	5.12
East Germany	6.13	4.16	1.13	The U.S.	2.65	3.12	Germany	6.43	5.10
Korea	2.56	0.68	1.11	France	5.13	3.10	The U.K.	3.64	3.35
Hungary	2.31	1.97	0.69	Thailand	2.77	1.86	Philippines	4.30	3.34
Poland	3.14	5.08	0.44	Russia	4.06	1.48	Malaysia	1.26	2.89
Others	25.89	25.45	19.16	Others	21.03	31.30	Others	33.60	30.79
Total	100	100	100	Total	100	100	Total	100	100

Source: General Statistics Office, various years

Vietnam's efforts to diversify its export markets over the last fifteen years have borne fruit. The number of trading partners has jumped from 99 countries in 1995 to 182 in 1998 (GSO, 2000b). The market diversification index of 1998 is also double that of 1992 and about one and a half times that of 1995. Throughout the 1990s, Asia remains the largest trading continent while exports to the European Union, North America and Oceania continue to increase. This trend of market diversification strengthens Vietnam's integration with the world economy and lessens its vulnerability to external shocks from an importing country or region.

In sum, changes in the commodity composition and market structure of Vietnam's exports have been positive. The current commodity composition and market structure of Vietnam's exports is more favourable than in the early years of reform. Whether the export structure suffices for Vietnam to benefit from the general trend is dealt with in the next chapter.

3.5 SUMMARY

This chapter has reviewed the development of Vietnamese trade policy to date. Since the start of the reform, all three main components of the trade regime, namely enterprise controls, foreign exchange controls and commodity controls, have been gradually liberalised. Trade reform has been considered one of the successful reform areas in Vietnam and the key to Vietnam's sustainable economic growth in the past decade (IMF, 1999a). With the participation in regional trade agreements and the application to join the WTO, Vietnam has indicated a strong commitment to further trade liberalisation.

Successful trade policy reform has been a crucial factor in the achievements of Vietnam's trade performance. Relaxation of export and import controls has had immediate impact. A preview of Vietnam's trade performance shows high growth in both imports and exports. The level of imports has, however, been higher than exports, resulting in a large trade deficit especially during the period 1993-1997. High import and export growth has also been accompanied by changes in commodity composition and market structure. Over the last fifteen years, Vietnam's exports have been concentrated on a number of products, which reveal their comparative advantage in the

world market. The share of manufactured exports in total exports also increased from 36 percent in 1995 to 46 percent in 1998. On the other hand, market distribution has become more diversified. Vietnam has strengthened its ties with Asian and European Union markets and penetrated the North American market.

Vietnam's improved export performance raises interest about its causes. The next chapter will look at the impact of Vietnam's commodity composition and market distribution on its export performance, and the degree to which Vietnam's competitiveness plays a role in its gaining a larger market share in the world.

Chapter 4

AN EMPIRICAL ANALYSIS OF THE EXPORT GROWTH OF VIETNAM

4.1 INTRODUCTION

The preceding chapter reviewed Vietnam's trade policy and export performance from 1986 to date. Trade liberalisation, together with reforms in other areas, has helped Vietnam achieve impressive export growth, which is comparable with those of the fast growing East Asian countries. Over the period of fifteen years, Vietnam has expanded its share in world export sixfold and absolute export value by seventeen times. This happened at a time when the world's export value grew less than 3 times and that of developing countries less than 3.3 times (Table 4.1).

Vietnam's export expansion has been accompanied by changes in both commodity and market structures. The analysis in Chapter 3 reveals an enhancement in Vietnam's commodity composition, with the share of manufactured exports in total exports reaching 46 percent in 1999 up from 30 percent in 1990. This development was made possible by, among other things, increased access to major importers of labour-intensive manufactured products, notably the European Union and the United States.

Vietnam's success in expanding its share in world exports by six times over the period of 15 years may be traced back to changes in its export structure and export competitiveness. Vietnam's exports may be concentrated on commodities for which world demand is growing more rapidly than the world average for all commodities. They may also be concentrated more on those markets that are relatively fast growing in terms of import demand. Favourable commodity and market conditions would indicate that Vietnam's exports were in line with the growth points in world demand. By and large, these two effects would seem to reflect the influence of external demand on Vietnam's export growth.

TABLE 4.1
A COMPARISON BETWEEN WORLD, DEVELOPED AREA, DEVELOPING AREA
AND VIETNAM'S TOTAL EXPORTS: 1985-1999

Year	World (1)	Developed Area (2)	Developing Area (3)	Vietnam (4)	Share of (4) in (1)	Share of (4) in (2)	Share of (4) in (3)
	Million US\$				Percentage		
1985	1,971,640	1,304,784	496,873	698	0.0354	0.0535	0.1405
1990	3,841,497	2,489,409	830,178	2,404	0.0626	0.0966	0.2896
1995	5,120,452	3,517,073	1,418,586	5,449	0.1064	0.1549	0.3841
1997	5,547,414	3,692,600	1,646,364	9,185	0.1656	0.2487	0.5579
1999	5,620,665	3,769,886	1,648,787	11,850	0.2108	0.3143	0.7187
Change 1985-1999 (percentage)	285.08	288.93	331.83	1,697.71	595.53	587.59	511.62

Source: *Value: UNCTAD Handbook of Statistics (2000)*

Percentage: calculated by author.

Note: *Total world exports are made up of exports from Developed markets, Developing markets and Countries in Eastern Europe (UNCTAD 2000).*

On the other hand, the reasons behind Vietnam's export success may lie in its internal ability to adapt to changes in the trading partners' demand structures and, given an unchanged structure of world demand, the ability to raise its share in trading partners' imports. These supply-side factors reflect, in a broad sense, that Vietnam has become more competitive compared with other sources of supply in products over which it has no monopoly power in trade.

This chapter seeks to determine the extent to which external or internal conditions have been responsible for the favourable growth of Vietnam's export relative to that of the world using the Constant-Market-Shares (CMS) model. The outcome of this investigation will have important implications for Vietnam's trade policy. If Vietnam's export growth is due to internal factors operating on the supply side, then appropriate policies could be undertaken to improve further the operations of such favourable factors. On the other hand, if external factors are found to be the cause of Vietnam's growth in exports, then it is important to look at the sustainability of these factors in the future and, at the same time, appropriate steps must be taken to make exports more competitive in world markets. This is to reduce the vulnerability of Vietnam's exports to external changes in the world economy.

The following section will give a description of the methodology used in this chapter. Results of the analysis are presented in section 4.3. Section 4.4 will examine Vietnam's competitiveness in both primary and manufactured exports. Finally, a summary of the analysis completes the chapter in section 4.5.

4.2 METHODOLOGY

In order to quantify the relative importance of the different causes of Vietnam's increasing share in world exports, this study makes use of the CMS model of export growth. The CMS model is a technique aimed at the quantification of structural advantages or disadvantages inherent in the geographical or commodity composition of a country's exports. This technique was first used as a methodological tool by Tyszynski (1951). Tyszynski calculated what the aggregate market share of a nation on the world market would have been if its market shares in individual commodity groups had remained constant. The difference between this hypothetical market share and the

initial share was seen as change in market share caused by structural changes in world trade. He referred to the residual (i.e. the change between the final and the hypothetical market share) as a change caused by changes in competitiveness.

Leamer and Stern (1970) labelled the former structural effect “commodity composition effect”; added the effect of the market distribution of a country’s exports, and calculated the competitiveness as a residual. According to Leamer and Stern (1970), the difference between the actual increase of a country’s exports and the increase as implied by the constant share norm (that is, if the country’s exports had increased at the same rate as the world average) is partitioned into three components: (1) the commodity composition effect; (2) the market distribution effect; (3) a residual, indicating in a broad sense, the competitiveness effect.

Although the tool had proved useful in disaggregating the market effect on a country’s exports, this method has been criticised by Richardson (1971), Love (1973), Margarida and Rayment (1984) and Fagerberg and Sollie (1987). Richardson, for instance, pointed out the interdependency of Leamer and Stern’s commodity composition and market distribution effects. Hence, the order in which they are calculated matters; also the volumes and signs of the various effects may change if the final instead of the initial year of the period under study is used as base year. Margarida and Rayment (1984) emphasised the pitfalls of deducing the country’s competitiveness from the residual.

Jepma (1986) introduced a modified version of the CMS model. The new model solves the order problem by separating Leamer and Stern’s Commodity Composition Effect into a new Commodity Composition Effect and a Structural Interaction Effect. In addition, it introduces a number of new components that help explain changes in export performance in more detail. The residual is further decomposed into four different effects namely Pure Residual, Static Structural Residual, Pure Second-order Effect and Dynamic Structural Residual. Economic interpretation of these additional effects is, however, ambiguous.

Fagerberg and Sollie (1987) developed a new version of the model to avoid the weakness of Leamer and Stern’s model. The main extension of the method is in the use of initial year’s weights (the Laspeyres indices) throughout the calculation. As a consequence, they obtained two effects that reflect the country’s ability to adapt its

export structure to the changes in the commodity and market composition of world imports, thus making the economic interpretation of the residual terms explicit. Fagerberg and Sollie also provide a rigorous proof of the economic implications of these two impacts.

The CMS model has been applied extensively in international trade analysis. Recent applications of the method include Kapur (1991), Roy (1991), Deldman (1995), Lloyd and Hisako (1996), Arshad (1997), Marjit (1997), and Lohrman (2000). The CMS version of Fagerberg and Sollie (1987) has been used by the International Trade Centre (2000) to decompose changes in the market share of 184 member countries of the United Nations, plus Hong Kong, Macao, Switzerland and Taiwan for the period 1994-1998. Results on the different effects are then ranked among these countries.

Due to the popularity of the CMS methodology, the present study applies it, using Fagerberg and Sollie's version of the model.

The model

Let the subscripts i and j represent commodities and markets respectively. A country's export of commodity i to market j is X_{ij} , the total import of market j of all commodities is M_j . World imports are denoted by M . We define the following terms.

- micro-share: exporting country's market share of commodity i in market $j = a_{ij} = X_{ij}/M_j$
- commodity import share: the share of commodity i 's import in total import of market $j = b_{ij} = M_{ij}/M_j$
- import share: market share of country j 's import in total world import $= c_j = M_j/M$

The market share of a country in the world market (S) may then be written as follows:

$$S = \sum_j c_j \sum_i a_{ij} b_{ij}$$

The change in market share for exports of a country between two periods is:

$$dS = S_1 - S_0$$

According to Fagerberg and Sollie (1987), this change in market shares is decomposed into five effects as follows:

$$dS = \sum_j c_j \sum_i a_{ij} db_{ij} + \sum_j c_j \sum_i da_{ij} db_{ij} + \sum_j dc_j \sum_i a_{ij} b_{ij} + \sum_j dc_j \sum_i d(b_{ij} a_{ij}) + \sum_j c_j \sum_i b_{ij} da_{ij}$$

(1)
(2)
(3)
(4)
(5)

where d denotes the change.

The effects presented on the right hand side of the above equation are:

- 1) Commodity composition effect (CCE): the change in a country's market share arising from the change in world commodity import composition. A positive effect means that the country has concentrated its exports in commodities for which import demand from its trading partners has increased more rapidly than the average for all commodities. A negative CCE indicates the opposite.
- 2) Commodity adaptation effect (CAE): the degree to which a country has succeeded in adapting its commodity composition to changes in the composition of world imports. A positive CAE occurs when the reporting country's export composition moves in the same direction as the import composition of its importing countries and vice versa.
- 3) Market composition effect (MCE): the change in the country's share of world imports due to changes in its trading partners' shares in world imports. A positive MCE shows that the country concentrated on markets that had a higher import growth rate than the world average.
- 4) Market adaptation effect (MAE): the degree to which the country has succeeded in adjusting to changes in the market structure of world imports. A positive MAE indicates that the country has increased its export share in markets where import demand grew faster than the world average during the same period.
- 5) Micro-share effect (MSE): the effect of changes in the micro-shares of the country in each market weighted by the commodity import share and the import share of that market in the initial year.

It is recognised that, despite revision, the CMS model discussed above has several limitations. Since the model is an identity, it cannot provide an *explanation* of the past behaviour of the model. Both the commodity and the market effects the above identity refer to a state of being (the structural concentration on high-growth commodities and markets), not to any dynamic changes in the country's export structure (Richardson, 1971). Without a stochastic basis, the model cannot be used for the purpose of econometric projection or the prediction of probable future changes in the market share. Rather, it is useful in raising questions or hypotheses to be tested in further research. It should also be noted that in interpreting the results of these calculations, not too much reliance should be placed on the movement of the different terms since such analysis is extremely susceptible to differences in levels of aggregation by commodity and market areas and to the order in which these market effects are calculated. A high degree of aggregation, for example, will minimise the commodity effects and maximise the competitive residual. Again, the results will differ for different aggregation of markets.

Data and aggregation

The data used in this analysis are from the NAPES database and UNCTAD (2001). A time span of 15 years from 1985 to 1999 is chosen for the analysis as this is the period of major economic reform in Vietnam. This period is further divided into four subperiods: 1985-1990, 1991-1995, 1996-1997 and 1998-1999 based on changes in Vietnam's commodity and market structures and its trading partners' import growth. Although the length of the subperiods are not equal, this does not distort the results since we are more interested in the relative importance of the different effects in each period rather than their absolute contribution.

All traded goods are aggregated into 13 groups consisting of six primary commodities, six manufactured products and the rest. The first 12 commodity groups account for between 67 percent and 88 percent of Vietnam's total exports during the period studied. The aggregation is based on the Standard International Trade Classification (SITC) version 1, at either the 2-digit or the 3-digit level. The details of these are provided in Appendix 4.1.

The markets considered here are Vietnam's major trading partners. Their imports from Vietnam contributed towards 90 percent of Vietnam's total exports in recent years.

These markets are ANZ²¹, ASEAN6²², China, East Asia²³, EU12²⁴, Japan, the USA and ROW²⁵.

One limitation of this market grouping is that Eastern Europe is not considered separately due to the unavailability of data for this region. As shown in the last chapter, prior to 1990 Eastern Europe was the major market for Vietnam's exports, absorbing more than half of total exports. Trade with this region, however, contracted after the collapse of the former Soviet Union and remained under 5 percent in the 1990s. As Eastern Europe is included in ROW, it is important to take into account this limitation when interpreting the effects of trade with the ROW.

4.3 RESULTS

Table 4.2 shows the changes in Vietnam's market share in the four periods and the contributions of the different effects as a percentage of the total observed change. For each period, the analysis is done first with total exports and then with the exports of non-oil commodities only. Oil exports have been an important factor contributing to Vietnam's export growth (detailed result of the CMS analysis with oil is provided in Appendix 4.2). Exports of crude oil alone accounted for 40 percent of the gain in market share between 1985 and 1990 and about 20 percent in later periods. This increase is largely the result of the discovery of new oil wells and does not in itself reflect the improvement of competitiveness or structural changes. Thus, to avoid overstating competitiveness, crude oil exports are excluded. For the purpose of comparison, the results of both analyses are shown in table 4.2 with those of oil exports in brackets. The analysis below will focus on non-oil exports only.

²¹ Australia and New Zealand

²² Brunei, Indonesia, Malaysia, The Philippines, Singapore, and Thailand

²³ Hong Kong, South Korea and Taiwan

²⁴ Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and the UK

²⁵ All other markets not listed above

TABLE 4.2
A CONSTANT-MARKET-SHARE ANALYSIS
OF THE SOURCES OF CHANGE IN VIETNAM'S EXPORT SHARE, 1985-1999

Unit: Percentage

	85-90	91-95	96-97	98-99	85-99
Total Increase in Market Share	0.0164 (0.0272)	0.0363 (0.0438)	0.0494 (0.0592)	0.0367 (0.0453)	0.1364 (0.1754)
Commodity Composition Effect	-16.02 (-10.35)	0.31 (-9.17)	-7.45 (5.69)	8.39 (-5.71)	-4.23 (-3.5)
Commodity Adaptation Effect	-15.74 (-40.67)	13.23 (0.67)	0.72 (1.24)	-15.38 (-14.62)	9.95 (-27.19)
Market Distribution Effect	12.02 (6.87)	13.71 (11.12)	-6.72 (-7.48)	-28.63 (-29.04)	2.64 (2.00)
Market Adaptation Effect	-7.53 (-3.3)	1.15 (5.32)	-3.08 (-2.29)	8.88 (6.89)	-6.88 (-5.52)
Micro-share Effect	127.27 (147.45)	71.6 (92.05)	116.53 (102.84)	126.74 (142.48)	118.42 (134.21)

Sources: Computed by author

Notes: numbers in bracket are results of the analysis for total export, including oil.

4.3.1 COMMODITY COMPOSITION EFFECTS

A summary of the CCE of all commodity groups is presented in Table 4.3. Overall, the results of CCE indicate an unfavourable commodity composition of Vietnam's exports. Out of the 15 commodity groups, only electrical machinery and furniture have slightly higher demand growth than the average for all commodities for the whole period. For the other commodity groups, the demand from Vietnam's trading partners has been unstable.

Negative CCE over the 15-year period implies that Vietnam's exports have concentrated on commodities that were relatively slower-growing than the average. The CCE in the first three periods is either negative or insignificantly positive. Only in the last period does CCE contribute a positive 8 percent to the total gain in market share.

TABLE 4.3
DISTRIBUTION OF COMMODITY COMPOSITION EFFECTS
AND COMMODITY ADAPTATION EFFECTS BY COMMODITY

Unit: Percentage

COMMODITY	1985-1990		1990-1995		1995-1997		1997-1999		1985-1999	
	CCE	CAE	CCE	CAE	CCE	CAE	CCE	CAE	CCE	CAE
Fish	0.40	1.06	1.64	-0.76	-1.84	-1.87	1.60	0.02	-0.33	0.80
Rice	-0.04	-14.24	1.30	2.43	-5.07	3.20	6.60	-5.73	0.00	-0.88
Fruit and Vegetable	-2.63	-4.20	2.00	-2.35	0.45	-0.41	0.09	-0.04	-0.36	-0.02
Coffee	-0.79	-3.95	0.61	5.55	-1.57	0.61	-9.92	-7.11	-0.11	-16.74
Oil Seeds, Nuts, Kernels	-4.22	-2.47	-1.04	0.29	1.30	-0.89	0.14	-0.18	-0.56	0.47
Coal, Coke, Briquettes	-5.00	-0.55	-0.86	-0.88	0.07	0.21	-1.51	-0.20	-1.07	-1.99
Textile, Yarn, Fabric, etc	0.05	2.20	1.07	-1.51	-0.57	-0.27	-1.82	-0.50	-0.01	-0.46
Electrical Machinery	0.20	0.05	0.36	0.47	0.15	0.67	7.07	-1.09	0.21	3.80
Furniture	0.02	0.17	0.01	0.65	0.45	0.06	0.65	0.34	0.00	2.38
Travel Goods, Handbags	-0.14	1.12	0.11	0.91	-0.11	-0.10	-0.06	-0.75	-0.02	3.84
Clothing	0.15	2.17	0.47	5.51	-0.77	0.06	1.31	-0.09	0.04	8.74
Footwear	-0.86	-0.73	-3.29	1.93	1.78	-0.46	6.07	0.38	-0.74	-12.32
Others	-3.15	3.62	-2.08	0.99	-1.73	-0.08	-1.84	-0.43	-1.27	2.42
TOTAL	-16.02	-15.74	0.31	13.23	-7.45	0.72	8.39	-15.38	-4.23	-9.95

Source: Computed by author

Three major contributors to the observed CCE are rice, electrical machinery and footwear. This gain, however, is not large enough to offset the negative effects of previous periods.

It can be seen from the CMS analysis that, in general, Vietnam has not been exporting the 'right' commodities. Although there has been substantial changes in the commodity structure since the reform, this change has been toward those commodities in which Vietnam happens to have a comparative advantage. These however are primary and low value-added commodities for which the world demand is relatively sluggish rather than commodities which enjoy growing demand.

It is thus important for Vietnam to reconsider its specialisation pattern. In general, specialisation patterns are quite stable (or sticky) as demonstrated by the range of exports. While this pattern is often true for richer countries, for a country at an early stage of development, the rate at which the trade structure changes is often much faster (Dalum et al, 1997). Either way, Vietnam would need suitable policies to direct its specialisation pattern toward products that enjoy faster growing market conditions.

The 'right' goods, in the context of the CMS model, can be considered to be those with high and growing demand. But problems often occur as some goods may be faster growing in one period but declining or stable in another. It is also worth noting that not all well-off countries have the 'right' specialisation pattern. Some countries have mastered the arts of creating high income per capita in economies based on low or medium growth products, at the same time penetrating into high-growth segments (Dalum et al, 1997). This would indicate their strong competitiveness in the goods in which they specialise. The competitiveness effects, in these cases, would outweigh negative commodity effects.

4.3.2 COMMODITY ADAPTATION EFFECTS

The CAE indicates the degree to which a country has succeeded in adjusting its commodity composition to that of world import pattern. The sign of CAE is determined by the interaction of the signs of the change in the microshare (da_{ij}) and the change in the commodity import share of the same market (db_{ij}). A positive CAE means the

country has succeeded in adapting to changes in market conditions. This occurs when db_{ij} and da_{ij} have the same sign, i.e. the micro share increases for commodities for which relative demand also rises and vice versa. In the case of Vietnam, CAE is negative for the entire 15-year period. This is mainly due to rapid increase in exports of commodities for which world demands have been slow growing (e.g. coffee and footwear). Export of those with positive CCE also rises, but at a lower rate.

It should be noted that as the data used are in value terms, the price factor may have a strong influence on the results. The smaller b_{ij} at the end of the period (thus negative db_{ij}) could be the result of a fall in the commodity prices given unchanged quantity demanded. This often happens where there is a surplus in supply. For example, a bumper coffee crop in Brazil usually leads to substantial fall in world price of coffee. Supply conditions of primary commodities (especially agriculture products) are often unpredictable and thus adaptation to these factors is very difficult. Vietnam's ability to adapt to the changing prices of primary commodities has been very poor due to inadequate storage facilities and shortage of capital to be able to hold stock (MARD and FAO, 2000). With regard to manufactured exports, Vietnam is a new exporter and its manufactured exports are concentrated on only a few products. At this stage, Vietnam needs to strengthen production of these manufactured exports. Thus the country is not in a position to adjust its commodity composition according to demand. More disaggregated data (at least at the 4 digit level) may reveal more about the ability to adapt at the intra-industry level.

4.3.3 MARKET COMPOSITION EFFECTS

A summary of the market composition effects and market adaptation effects is presented in Table 4.3. It can be seen from the table that the MCE have different impacts in different periods. During the first and second periods, MCEs make a relatively large positive contribution to export growth. This indicates that from 1985 to 1995 Vietnam benefited from the market structure. A closer look at the distribution of the market effects shows that the effects from ASEAN and East Asia are most significant. During the first period, Vietnam's exports to ASEAN and East Asia accounted for just over 20 percent of total exports (Table 3.7), but a strong growth in import demand from this

region²⁶ brought about a 20 percent increase in the market share for Vietnam. On the other hand, Vietnam's largest trading partners during this period – the former Soviet Union and East Europe (included in the ROW) – only increased their imports at less than two thirds the rate of the world (Table 4.5). As more than half of Vietnam's exports went to this region during the first period, the negative impact of ROW was significant.

TABLE 4.4
DISTRIBUTION OF THE MARKET EFFECTS BY MAJOR MARKETS

Markets	1985-1990		1991-1995		1996-1997		1998-1999	
	MCE	MAE	MCE	MAE	MCE	MAE	MCE	MAE
ANZ	-0.19	-0.05	0.01	0.04	-0.07	-0.04	0.10	0.02
Asean6	7.96	3.70	9.97	-1.57	-0.12	-0.07	-18.54	2.73
EU12	1.17	1.43	-0.73	-6.71	-3.91	-3.06	4.95	1.91
China	-0.01	-0.26	0.19	4.64	0.18	-0.11	0.98	0.25
Japan	0.45	0.29	-0.16	-0.38	-3.97	-1.55	-11.56	-1.66
US	0.00	0.00	0.00	0.29	0.70	0.40	3.56	0.85
East Asia	13.20	-1.29	7.07	2.77	-0.11	-0.01	-8.03	4.93
ROW	-10.55	-11.35	-2.63	2.07	0.57	1.37	-0.09	-0.14
Total	12.02	-7.53	13.71	1.15	-6.72	-3.08	-28.63	8.88

Unit: percentage of total change in market share in the corresponding period.

Source: Computed by author.

From 1991 to 1995 there was major restructuring of Vietnam's export markets with larger proportions of exports going to East and Southeast Asia and less to the Eastern European market. It is very clear from Chapter 3 that Asia has become Vietnam's major export market, absorbing more than 70 percent of Vietnam's exports. As ASEAN and East Asia continue their trend of high import growth, this has increased Vietnam's share

²⁶ From 1985 to 1990 the import growth rate of ASEAN and East Asian countries was about twice that of world imports.

in world exports by 17 percent²⁷. In addition, China had emerged as a potential large importer in world trade with its import growing at more than 3 times that of the world during the period 1991-1995. The impact of China's rapid import growth on Vietnam's exports was, however, limited due to a low level of bilateral trade in the base year. Two of Vietnam's large export markets – the EU and Japan – have suffered economic slowdown since the early 1990s. However, the negative impact on Vietnam's export growth was not substantial, also due to low level of bilateral trade at the initial year.

TABLE 4.5
IMPORT GROWTH RATES OF VIETNAM'S MAIN TRADING PARTNERS

	<i>Unit: Percentage</i>			
	1985-1990	1991-1995	1996-1997	1998-1999
Asean	134.18	117.41	8.10	-26.64
ANZ	61.49	46.14	6.87	3.74
EU	112.04	27.82	1.77	5.98
China	26.25	142.03	10.13	16.60
Japan	80.38	42.71	0.86	-8.12
US	46.68	49.10	16.63	17.81
East Asia	155.88	108.32	8.25	-12.19
ROW	45.26	35.04	15.57	2.56
World Total	76.84	44.18	8.60	2.75

Sources: Computed from UNCTAD (2001).

In the second half of the 1990s, Vietnam continued the path of market diversification. Following the normalisation of diplomatic relations with the United States in 1995, bilateral trade between the two countries expanded rapidly. Trade to the EU, the US, Australia and New Zealand also intensified. Exports to Asia, thus, declined in relative terms, but still accounted for more than half of the country's total exports. The market distribution in this period has brought about a negative impact on Vietnam's exports compared with what would have been if these markets followed the world trade pattern. Most of this adverse impact comes from Japan and the EU whose imports continue to

²⁷ This is the total MCE of ASEAN6 and East Asia from 1990 to 1995.

fall further. Among the trading partners, only China and the US have strong import growth but Vietnam's trade link with these two markets was too weak to offset unfavourable effects from other markets.

The Asian crisis that started in 1997 further affected Vietnam's export. Following the crisis, import demand from ASEAN and East Asia dropped dramatically (Table 4.5). Japan continue to suffer from economic recession and reduced its imports by 8 percent in 1999 compared with the level in 1997. Together, the economic slump of these countries cost Vietnam 28 percent of the gain of market share over the same period.

4.3.4 MARKET ADAPTATION EFFECTS

Over the period 1985-1999, Vietnam was not successful in adapting its market structure to the world trend. Table 4.2 shows that Vietnam lost 6.9 percent of its gain in market share due to its inability to adapt to changes in demand. A point worth noting here is that in general Vietnam has expanded its share in major partners' import market, regardless of the trend. Establishing a foothold in a new market for a country like Vietnam is not an easy task. Thus, the short-term outlook of a market does not seem to be a factor affecting Vietnam's export directions. Rather, expanding market shares in both old and new markets is the strategy that Vietnam has adopted so far.

4.3.5 MICRO-SHARE EFFECTS

During the fifteen years 1985-1999, the micro-share effect (MSE) was the main factor contributing to export growth. The contribution of MSE is higher than the total effects for the whole period 1985-1999 and also for most of the subperiods. This indicates that Vietnam's gain of world market share was, to a large extent, due to increases in microshares. The rise in the micro-share is a sign of Vietnam's rising competitiveness resulting from positive outcome of trade liberalisation policies and a positive supply effect.

The term "competitiveness" embraces a multitude of factors that go into making a product more attractive in foreign markets. Price as well as non-price elements are both important in determining a country's strengths in exporting. Other things remaining the

same, if prices at which a country is able to offer are lower than those of its rivals, the country will be most likely to compete effectively. In addition to prices, competitiveness is also influenced by product quality and marketing techniques, by the terms of the financial arrangements and so on. Clearly, if prices are the same from all sources of supply, countries that are able to offer better trading terms than others have better chances of success in exporting.

The price element of competition is determined by the impact of factors such as the effective exchange rate, costs, productivity, the plant size, the pressure of international demand. These factors in turn are influenced by the state of the domestic resource endowments, the character of industrial development and by domestic economic policies, particularly those relating to trade and industrialisation.

TABLE 4.6
DISTRIBUTION OF THE MICRO-SHARE EFFECT

Unit: Percentage

Commodity	1985-1990	1991-1995	1996-1997	1998-1999	1985-1999
Fish	4.71	-0.74	10.55	10.23	5.77
Rice	26.82	-2.84	3.10	-8.13	3.66
Fruit and Vegetables	26.68	-7.27	1.48	0.82	0.81
Coffee	6.43	18.29	-3.28	26.09	26.40
Oil Seeds	5.17	-2.21	-2.39	-1.09	-1.71
Coal, Coke, Briquettes	1.12	3.02	1.46	1.27	3.27
Textiles	31.12	-4.92	3.13	5.98	4.05
Electrical Machinery	0.33	1.12	18.60	0.66	2.65
Furniture	0.41	3.99	4.00	6.41	2.38
Travel Goods, Handbags	-0.62	4.60	4.77	3.27	0.00
Clothing	3.57	29.85	23.53	14.06	14.38
Footwear	7.01	19.10	40.96	36.47	41.76
Others	14.53	9.6	10.63	30.69	14.98
Total	127.27	71.60	116.53	126.74	118.42

Source: Computed by author

Over the period 1985-1999, MSE was responsible for 118 percent of the gain in market share. Except for oil seeds, all other commodity groups have gained micro-share albeit at different levels. Seafood, rice, coffee, textile, clothing and footwear played key roles in Vietnam's total gain of market share. These goods are not new export products of Vietnam, but they became major foreign currency earners only in the 1990s. Their production, complementing Vietnam's resource endowments, has increased tremendously over the last decade.

Endowed with favourable natural conditions and a large labour force for the production of agricultural and labour-intensive products, Vietnam's exports maintain very competitive prices compared with other exporters in the regions. Low costs of production are also gained through significant improvement of yields and productivity in each sectors over the last decades as a result of foreign investment, transferred technology, improved competition and so on.

Despite price competitiveness, Vietnam's exports have been constrained by low-competitiveness from non-price factors. More than a decade under the command economy, Vietnam's entrepreneurs lack knowledge about international markets. As a consequence, weak marketing techniques and distribution networks hampered penetration into world market. In addition, it is possible that Vietnam's products have not benefited from having Vietnamese trademarks. Building the reputation for Vietnam is thus an important factor adding value to Vietnam's exportable products.

The following section will examine price and non-price competitiveness of Vietnam's major exports. Price comparison will be made with reference to other countries in the region.

4.4 COMPETITIVENESS OF VIETNAM'S MAJOR EXPORTS

Price and non-price factors are both important determinants of the competitiveness of a country. In terms of prices, an economy is considered competitive in the production of a particular commodity when the undistorted and sustainable domestic market price of a commodity is equal to or lower than prices of similar product from competing economies. This comparison must be between commodities of the same kind and

quality. Based on this general notion, prices of Vietnamese rice, seafood and coffee are compared with those of other exporters in the region. Although full price data for all commodity segments are not available or accessible, a rough comparison is attempted here. This somehow gives an idea of Vietnam's price competitiveness in these products.

4.4.1 PRIMARY EXPORTS

Tables 4.7, 4.8 and 4.9 demonstrate the relative prices of Vietnam's main agricultural exports. In general, Vietnamese prices for rice, coffee and shrimp are lower than those of competing countries.

TABLE 4.7
COMPARISON OF RICE EXPORT PRICES: VIETNAM AND THAILAND

Year	PVN (US\$/ton)	PTL (US\$/ton)	PVN/PTL (%)
1993	165.2	182.1	90.7
1994	157.0	210.7	74.5
1995	201.9	278.4	72.5
1996	225.3	282.4	79.8
1997	190.8	244.3	78.1
1998	230.5	190.5	121.0

PVN: Price of Vietnam rice

PTL: Price of Thai rice

Source: Computed from Nguyen (2000), Table 13.

During 1993-1997, the prices of Vietnam's comparable rice varieties were cheaper than those of Thailand by 25%. The relative price however increased in 1998 implying a deterioration of the competitiveness of Vietnam's rice vis-à-vis Thailand's rice in the world market. This is a consequence of both an increase in Vietnam's own price and the strong effect of the regional economic crisis. From the middle of 1997, Thailand's sharp depreciation of nominal exchange rate resulted in a rice price that was cheaper than Vietnam's by almost 20 percent, reversing the trend of previous years. Despite this reduction in competitiveness, Vietnam's rice export growth in the last few years has

been strong. This growth might be explained by: (a) yield improvement, (b) expansion of the planted area, induced by heavily subsidised irrigation facilities, and (c) limitations on the alternative use of paddy lowland in the river deltas (Nguyen, 2000)

The competitiveness of Vietnamese coffee can be seen from its low price as compared with both the world price and the competing country's (Indonesia's) price. The price of Robusta exports of Vietnam from 1990 to 1998 was about 40 percent lower than world prices. This was achieved through high yields, possibly as the results of fertile land, good weather conditions, high-yield seeds and experienced farmers (UNDP, 1999). This strong competitiveness made Vietnam the third ranking coffee exporter and the top-ranking exporter of Robusta. Vietnam has also been successful in gaining access to the market of the world's three leading coffee consumers namely the US, the EU and Japan.

**TABLE 4.8 COMPARISON OF COFFEE EXPORT PRICES
VIETNAM, INDONESIA AND WORLD**

Unit: US\$/ton

Year	Vietnam Average (1)	Indonesia Average (2)	World (3)	Comparison (%)	
				(1)/(2)	(1)/(3)
1990	1029	871	1993	118.1	51.1
1991	816	1055	1579	77.3	43.4
1992	731	978	1476	74.7	49.5
1993	740	1542	1507	71.0	49.1
1994	1197	2851	3184	41.9	37.6
1995	2641	2461	3202	109.3	82.5
1996	1813	1678	2545	108.0	71.2
1997	1198	Na	2315	Na	51.7
1998	1521	Na	2350	Na	64.7

Source: MARD and FAO, 2000

Note: Na - Not available

Vietnam exports a wide variety of seafood products, among them shrimp accounts for 50 percent of total seafood export value. Shrimp is also the most tradable item in world seafood trade. It is for this reason that the average prices of Vietnam's exported are compared with those of some other Asian countries. Comparing the shrimp price of Vietnam to that of Indonesia, Thailand and the Philippines for 3 years (due to data limitation), it is clear that Vietnam's prices are consistently lower than all competing exporters. In some cases, the price of Vietnamese shrimp is 50 percent lower than Indonesia's.

TABLE 4.9 COMPARISON OF SHRIMP EXPORT PRICES

	<i>Unit: US\$/kg</i>		
	1991	1993	1995
Indonesia	8.4	8.9	11.0
Thailand	6.2	7.1	7.0
Philippines	7.1	7.8	9.0
Vietnam	4.2	4.8	5.2

Sources: Ha (2000)

The lower price of exportables is generally a positive sign of a country's competitiveness. However, the fact that Vietnam's commodities could only be sold at a discount relative to its competitors raises questions about non-price factors. It is usually argued that high-cost marketing systems due to poor transport structure and the lack of market information has proved to be an obstacle to Vietnam's exports. In the case of rice, although the system of marketing and distribution in the domestic market is almost free and competitive, state-owned enterprises (SOEs) have been allowed a predominant role in external trade, thus significantly constraining the participation of the private sector (Nguyen, 2000). Other factors such as the lack of storage systems, inadequate capital and poor processing equipment must all adversely affect the quality and the prices of rice, coffee and seafood.

In sum, as we examined the competitiveness of Vietnam's rice, coffee and seafood, it was found that Vietnam has been providing these products to the world market at a

competitive price. The price competitiveness is related mainly to low production costs which, in turn, are the result of the availability of cheap labour provided by the low-income rural population and favourable natural conditions. The factor endowments alone, however, do not guarantee Vietnam's low relative prices, as exports are also very vulnerable to external shocks. The Asian crisis offers a convincing example of how relative prices could reverse when currency depreciation of large proportions happens. Non-price factors, notably quality control and marketing systems, appear to have so far hindered the competitiveness of Vietnam's products.

4.4.2 MANUFACTURED EXPORTS

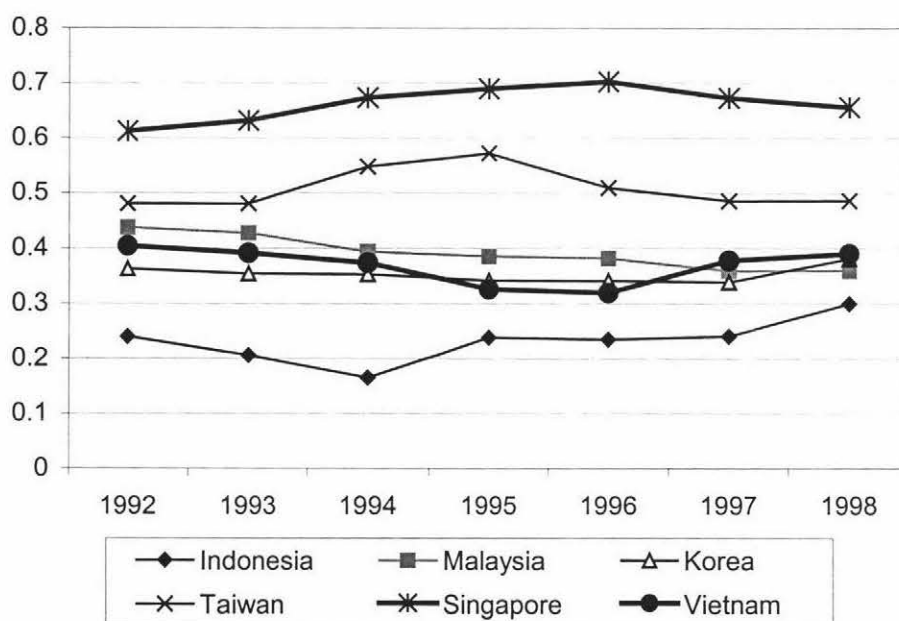
Vietnam's manufactured exports have been growing relatively fast, driven largely by the exports of garments and footwear. These two products are highly labour intensive and, thus, their price competitiveness depends heavily on the wage level and labour productivity, and is influenced by the exchange rate. A cross-country comparison of each of these factors does not reveal much about competitiveness because a low wage level is often associated with low productivity. In view of this relationship, this study attempts to measure price competitiveness in terms of the unit labour cost²⁸. A rise in the unit labour cost of Vietnam relative to its competitors makes production in Vietnam less attractive than overseas. The low cost of labour per unit of production is therefore an important factor that attracts foreign investment. This particular aspect of price competitiveness is of special importance to Vietnam since foreign investment has been largely responsible for the rapid growth in manufactured exports.

Figure 4.1 depicts unit labour cost in textiles and clothing in Vietnam and some other countries in the region over the period 1992-1998. Data for the footwear industry is unfortunately unavailable. It is observed that unit labour costs of Vietnamese garments and textiles are consistently lower than those of Singapore and Taiwan, close to the levels of Malaysia and Korea but higher than Indonesia's. Vietnam's unit labour cost was on a downward trend from 1992 to 1996, but it picked up in 1997 and 1998. This is the result of large increase in wages in 1997 and 1998 compared with previous years. Until 1996, the wage level in Vietnam in the textiles and garment industries was one of

²⁸ defined as wage/labour productivity

the lowest in Asia. The wage rates in Vietnam have risen, however, and are now higher than in China. The recent currency depreciation in Southeast Asia has reduced wages in US\$ terms for several countries, bringing about higher relative wage in Vietnam. For example, Indonesia's wage is now less than half of those in Vietnam²⁹.

FIGURE 4.1
CROSS-COUNTRY COMPARISON OF UNIT LABOUR COST



Source: Extracted from data in Appendix 4.3

The comparison shows a trend that countries with lower unit labour costs also tend to be those that export more of the products. China and Indonesia, whose unit labour costs are far lower than Vietnam's, also have larger exports of garment and textile products, even in per capita terms.

²⁹ Currency depreciation not only affect wages in US\$ but also labour productivity in US\$, thus the unit labour cost, which is defined as the ratio of wage to productivity, is unaffected. This is one advantage of using unit labour cost as an indicator for price competitiveness of labour-intensive products.

4.5 SUMMARY

This chapter has analysed the sources of export growth of Vietnam using the Constant-Market-Shares model. During the period under investigation, substantial growth in Vietnam's share of world exports was recorded. One of the major reasons for this growth has been the increase in volume of crude oil exported. The oil sector alone was responsible for more than 20 percent of the gain in market share. To separate the effect of oil and other commodities, as the increase in microshare of oil exports does not reflect improved competitiveness, oil is excluded from the analysis. Results of the analysis for non-oil exports show a negative contribution of the commodity composition effect, revealing that Vietnam has not exported the 'right' goods. This result is consistent with the fact that most of Vietnam's export items are primary products, and these products are generally slow growing. However, there are signs of positive change in the export structure toward higher demand commodities. In terms of market distribution, Vietnam benefited from the market structure due to high import growth of the Asian region in the first two periods, but it suffered greatly in recent years due to the Asian economic meltdown. The market adaptation effect has, overall, been negative.

By and large, the key to the observed export growth has been the increase in Vietnam's competitiveness as reflected in the micro-share effects. This effect is greater than the total effects, representing 118 percent of the gain in market share from 1985 to 1999. It is found that among the 13 groups of commodities, only one has a negative MSE. Among those that have gained market share, seafood, rice, coffee, textiles, clothing and footwear are the most successful. A regional comparison of the industries demonstrates that the competitiveness of Vietnam's exports so far has been due to price factors either due to the low labour cost in the case of clothing and footwear, or nature-endowed competitiveness in the case of coffee. Non-price factors such as quality and distribution are not up to international standards. This presents an obstacle that Vietnam must overcome if it is to get into high-return segments of export markets.

Chapter 5

TESTS OF VIETNAM'S COMPARATIVE ADVANTAGE

5.1 INTRODUCTION

The last chapter has provided a quantification of the relative importance of export patterns and competitiveness. As a result, an internal factor – increased competitiveness of Vietnam's exports – was found to be the foremost determinant of export growth.

This chapter sets out to test Vietnam's comparative advantage with reference to two well-established trade theorems: the Ricardian and the Heckscher-Ohlin (H-O) models. The purpose is to examine whether and to what extent Vietnam's composition of manufactured exports is explained by these trade theories.

The chapter begins with a brief review of the Ricardian and H-O models in section 5.2. The data and methodology are explained in section 5.3. This is followed by a discussion of the results in section 5.4. Finally, a summary of the chapter is presented in section 5.5.

5.2 THEORETICAL FOUNDATION

5.2.1 THE RICARDIAN MODEL

Assumptions

The Ricardian model assumes a world of two countries, two commodities and one factor of production. Labour, the only factor of production, is homogenous and inelastically supplied in each country. It is perfectly mobile within each country but internationally immobile. The production function is of constant-returns-to-scale. Technologies differ between the two countries. Finally, there is perfect competition in both product and factor markets and no barriers to trade.

The Hypothesis

Based on the above assumptions, the Ricardian model posits that a country exports the commodity in which it has the comparative labour productivity advantage. In the Ricardian model, the assumptions regarding labour supply imply that the reward to labour is unique within the country. Thus, the only determinant of each country's comparative advantage is technology, or, in other words, comparative labour productivity.

In the real world with more than two commodities, the Ricardian model involves setting up a chain in which all commodities are ranked in terms of their comparative factor-productivity ratios. Accordingly, each country must export the goods in which it has the greatest comparative advantage (Bhagwati and Srinivasan, 1983).

Literature on Empirical Tests of the Model

Empirical studies of the Ricardian model implicitly use the rationale of the two-country, multi-commodity framework. In order to establish testable hypotheses, assumptions about the wage structure are often modified, leading to different testable hypotheses of the model.

The empirical literature makes three types of assumptions about the domestic and foreign wages. The first type of testable hypothesis (type I) assumes that labour wages are different both across industries and across countries (Bowen et al, 1998). This leads to a statement of the Ricardian hypothesis in terms of comparative unit labour costs, not labour productivity.

The type II hypothesis maintains the assumption that the inter-industry pattern of wage rates is identical across countries. Thus, the only factor that affects the relative price is productivity. The hypothesis to be tested is related to its original form, i.e. in terms of the labour productivity.

Finally, according to the type III hypothesis if the wage is assumed unique in each country but different across countries, then the ranking of labour productivity is maintained, but the relative wage now indicates the borderline that separates exported goods from imported goods (Bowen et al, 1998).

MacDougall (1951, 1952) pioneered the testing the Ricardian model with the type III testable proposition concerning trade. Assuming that the U.S. wage rate was, on average, twice that of the U.K., McDougall tested the hypothesis that if the labour productivity ratio of U.S. to the U.K. in respect of a particular good was less than two, then the U.K. would have the cost advantage and therefore have a larger share of a third country's market in respect of that good. His results, on the whole, are supportive of the type-III Ricardian hypothesis. This study was followed by Stern (1962), Balassa (1963) and MacDougall (1962) himself. These later studies used alternative estimation techniques, updated data sets, and they also examined type I and type II hypotheses. The results obtained were on the whole supportive of the Ricardian hypothesis.

Bhagwati (1964) argued that the hypothesis as it was tested had only a remote connection with the Ricardian hypothesis. Bhagwati's criticism is based on the grounds that the relative export share or values to third markets is not directly relevant to the Ricardian hypothesis. He himself undertakes a few more tests of the Ricardian theory, but finds no support for the assumption that labour productivity ratios have the hypothesized relationship with commodity price ratios (Bowen et al, 1998).

McGilvray and Simpson (1973) attempted an improved test of the Ricardian hypothesis taking up many of Bhagwati's points. The results, again, did not support the Ricardian hypothesis. None of the computed correlation coefficients was significant and all but two were opposite in sign to what would be hypothesised if the Ricardian model were valid.

In short, there is so far little empirical support for the Ricardian hypothesis, at least in its traditional formulation. Tests of weaker hypotheses show, however, a significant impact of labour productivity and unit labour costs on trade performance (Bowen et al, 1998).

5.2.2 THE H-O MODEL AND HYPOTHESES

Assumptions

A notable extension of the H-O model's assumption compared to the Ricardian model is the two-factor production function. The production function is assumed to differ

between industries but is identical in respect of each goods in all countries. The technologies are known and universally available, hence the real marginal productivity of labour and capital depends only on the ratio in which they are combined and not on their national location. The production function is characterised by constant-returns-to-scale. Factor intensity reversals are excluded. Assumptions regarding the factors of production, and market structure are identical to those of the Ricardian model.

The Hypothesis

Given these assumptions, the H-O theorem predicts that a country will have a comparative advantage in, and therefore export, the good that uses the country's relatively abundant factor intensively in its production. Countries relatively amply endowed with labour in relation to capital will have an advantage in labour-intensive goods. Conversely, countries where labour is relatively scarce will have an advantage in capital-intensive goods.

Literature on Empirical Tests of the Model

The empirical testing of the H-O model was first attempted by Leontief (1954). The hypothesis he tested was that, given balanced trade, in a two-factor, many-goods world, the capital-content relative to labour in a million dollar's worth of US exports would be larger than the capital-content relative to labour in a million dollar's worth of US imports. The test, however, revealed the contrary, i.e. that the US exports were labour-intensive relative to US imports. This result is well known in the literature as the 'Leontief paradox'.

Starting with the "Leontief paradox", empirical tests of the H-O model have built up a large body of literature. Empirical tests of the model have translated the H-O theoretical statement into different empirically verifiable hypotheses. The standard model of such trade in a multi-factor, multi-commodity, multi-country setting is the Heckscher-Ohlin-Vanek (H-O-V) model, which is based on the factor-content proposition. The H-O-V model posits that the ratio of a country's exports of its abundant factor to its exports of the scarce factor exceeds the ratio of its imports of its abundant factor to its imports of the scarce factor (Bowen et al, 1998: 289).

The empirical literature has focused on explaining U.S. trade and found that alternative factors of production are better suited to explaining the patterns of trade. For example, Vanek (1963) focuses on natural resources arguing that certain categories of trade depend on the availability of such resources rather than on labour-capital ratios. Similarly, Keesing (1965, 1966) finds labour skills to be the key determinant of U.S. trade. Deardorff (1984) reconsiders the assumption of balanced trade in Leontief's test and points towards the trade surplus in the search for an explanation for the Leontief paradox. A considerable volume of subsequent research has lent support to Leontief's conclusion by rejecting the H-O-V model. Working with different data sets, Maskus (1985), Bowen et al (1987), Brecher and Choudhri (1988), Staiger (1988) and Kohler (1991) all fail to find support for the H-O theory.

Three more recent studies – Trefler (1993), Davis et al (1997) and Davis and Weinstein (1996) – have however reached conclusions more favourable to the H-O theory. Trefler (1993) found that when the traditional factor-price equalisation proposition is replaced by the equalisation of factors measured in efficiency units, the H-O model does quite well. Davis et al (1997) analysed different components of the theory – production, consumption, and trade – and concluded that the failure arises due to the break down of factor-price equalisation. Finally, Davis and Weinstein (1996) compared the performance of the H-O-V model against a competing theory based on economies of scale and found that it performed remarkably well.

5.3 DATA AND METHODOLOGY

5.3.1 DATA

The empirical analysis in this chapter makes use of the production data of all manufacturing industries from the General Statistics Office of Vietnam. The production data set contains data for 19 industrial sectors and is available for nine years, from 1990 to 1998. However, in this analysis three of these sectors, namely energy, fuel and others, are omitted³⁰, bringing the number of cross-sectional observations down to 16. Production data sets used in the analysis are given in Appendix 5.2 to 5.4.

³⁰ The energy sector is omitted due to the fact that it is a non-tradable sector in Vietnam. On the other hand, fuel (mostly crude oil) has been Vietnam's major export due to its availability. As natural resource endowment is not considered as a factor to production in this test, inclusion of the fuel industry would likely distort the result. Hence this sector is left out of the analysis.

Export shares are taken from the NAPES database and are grouped at appropriate two or three-digit levels to match with the 16 industrial sectors. The details of the grouping are provided in Appendix 5.1. It should be noted that there cannot be a one-to-one match between trade and production data; thus limitations exist in data grouping.

In the analysis, Vietnam's manufactured exports to three selected groups of trading partners are considered. The export share of each industry is worked out separately for each group of trading partner - the whole world, the OECD³¹ countries and the Asian developing countries³². These export shares are provided in Appendix 5.5 to 5.7. Since the three groups of trading partner differ greatly in terms of factor endowments, levels of development and patterns of industrial labour productivity, it is believed that replication of the tests to three different sets of explanatory variables would yield greater insight into the relationships studied. It should, however, be noted that among the countries falling within the OECD and developing Asia groups, there are enormous differences in the levels of development and in factor endowments. Therefore regression results for the group as a whole should not be applied to Vietnam's bilateral trade with individual country in the groups.

5.3.2 METHODOLOGY

5.3.2A Testing hypothesis of the Ricardian Model

In this section, the Ricardian hypothesis is tested for Vietnam's manufactured exports using a two-country, multi-commodity and one-factor framework. The test makes use of the chain proposition, which states that if all industries are ranked in terms of their comparative labour productivity ratios, a country will export the goods in which it has the highest comparative labour productivity (Bowen et al, 1998).

³¹ OECD group used in this analysis includes Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

³² The group 'Asian Developing Countries' includes Afghanistan, Bangladesh, Bhutan, Brunei, Burma, Cambodia, China, Hong Kong, India, Indonesia, Korea, Laos, Macao, Maldives, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam.

In this empirical test of the Ricardian model, wage value-added per employee is used as a proxy for labour productivity. The adoption of wage value-added instead of total value-added helps avoid the effect of the differences in capital intensity across industries on labour productivity. Wage value-added per employee is calculated by dividing the total wage bill of the industry (which is the wage part of value-added) by the number of workers in the industry. Thus, the wage value-added per worker is identical to the industry's average wage.

It should be noted that there are limitations involved in using wage value-added per employee as a proxy for labour productivity. Literature on inter-industry wage structures shows that, across countries, inter-industry wage differentials exist even after controlling for labour quality and job attributes (Slichter, 1950; Krueger and Summer 1987; Gittleman and Wolf, 1993; Thaler, 1989). Thus the inter-industry differences in average wage tend to overstate differences in labour productivity.

Empirical tests of the Ricardian theorem usually involve comparing labour productivity across countries. However, due to the lack of comparable data, this analysis tries to explain Vietnam's trade pattern exclusively from the Vietnam side.

Explanation of export performance solely from the Vietnamese side implicitly assumes that the pattern of labour productivity in the trading partner is such that if $WA_1 > WA_2 > WA_3 > \dots > WA_{16}$ then

$$\frac{WA_1}{WA_1^*} > \frac{WA_2}{WA_2^*} > \frac{WA_3}{WA_3^*} > \dots > \frac{WA_{16}}{WA_{16}^*}$$

where WA represents average wage (or wage value-added per employee), the subscripts denotes industries and superscript * refers to Vietnam's trading partners.

This assumption would mean that, if industries are ranked according to their labour productivity, relative difference in labour productivity of industries i and $i+1$ in Vietnam must be greater than that of the trading partner. In other words, the necessary and sufficient condition for the assumption to hold is:

$$\frac{WA_1 - WA_2}{WA_1} > \frac{WA_1^* - WA_2^*}{WA_1^*}$$

Since we are unable to test the validity of this assumption, results of the test should only be treated as indicative only. Tests of the Ricardian model using the relative labour productivity of Vietnam and its trading partner must await further research as comparable cross-country data improve.

The hypothesis to be tested is that the export share of Vietnam's manufacturing industries in total exports is positively correlated with the industry's relative labour productivity defined as the relative wage value-added per worker.

5.3.2B Testing hypothesis of the H-O Model

Testing the factor abundance theorem requires definitions of two concepts, factor abundance and factor intensity. There are two commonly used definitions of factor abundance: physical and price definition. For two country I and II and two factors K and L, country I is defined as L-abundant if either

$$\left(\frac{L}{K}\right)_I > \left(\frac{L}{K}\right)_{II}$$

or

$$W_I < W_{II}$$

where K and L are the endowments of the two factors of production and W is the wage-rental ratio (Bhagwati, 1998).

To identify factor abundance, the above definitions require comparing a country's factor endowment or wage-rental ratio with those of its trading partners. In the case of Vietnam, due to data unavailability, it is not possible to make such a comparison. It is, however, clear that there is significant imbalance between the main production factors: capital and labour. Unskilled and low-skilled labour is relatively abundant in Vietnam; capital and highly skilled labour are scarce. Therefore, it is assumed that Vietnam is an unskilled labour-abundant country.

The concept of factor intensity is also understood differently in different empirical tests. Leontief (1954) uses the concept of 'embodied factor services' which refers to the amount of a factor's services used up in producing a given amount of some goods. The services of factor K embodied in, say, a country's exports of good j is computed by

multiplying the total requirement of factor K needed to produce a unit of good j with the amount of the good produced. Leontief distinguishes between direct unit factor input requirement and total factor requirement, with the latter taking into account the fact that an industry uses both primary factors and intermediate goods to produce a unit of output. The calculation of total factor input requirement is based on the country's input-output table (Bowen et al, 1998).

Lary (1968) adopts value-added per worker as a guide to factor intensity. The higher the total value added per worker, the more capital-intensive the industry. On the other hand, the lower the value added per worker, the more labour-intensive it is. The value-added approach further assumes that these services could be ascribed either to human capital or physical capital. The wage-and-salary part of value-added is frequently used as a proxy for human capital and the remainder of value-added is used as a proxy for physical capital.

This analysis uses the 'direct factor input requirement' approach. The ratio of total wage to total value added is used as a proxy for the labour intensity of the respective industry. The proportion of wage in value-added is essentially the amount of labour services embodied in producing one unit of a good. Thus, the higher the ratio in an industry, the more labour-intensive the industry is.

The hypothesis to be tested is that the export share of Vietnam's manufacturing industries in total exports is positively correlated with the industry's labour intensity ratio, defined as the proportion of total wage in total value added.

5.3.2C The model

The empirical tests in this chapter use the two-country, multi-commodity framework. Two economic relationships are to be tested.

$$\text{The Ricardian model: } X_i = f(WA_i, Y_i)$$

$$\text{The H-O model: } X_i = f(LI_i, Y_i)$$

where the variables are defined as follows:

- WA_i is relative wage value-added per employee, defined as the ratio of wage value-added per employee of industry i to average wage-value-added per employee of all manufacturing industries.
- LI_i is the labour intensity ratio of industry i , defined as the ratio of total wage to total value-added of industry i .
- Y_i is the share of production of industry i in total manufacturing production, defined as the ratio of output of industry i to total production of all manufacturing industries.
- X_i is the share of exports of industry i in total exports. Since the exports of Vietnam to three groups of partner countries: the world, the OECD countries and Asian Developing countries are tested separately, the dependent variables for the corresponding tests are defined as follows:
 - X_i^w : the share of Vietnam's exports of industry i in total exports from Vietnam to the world
 - X_i^O : the share of Vietnam's exports of industry i to OECD countries in total exports from Vietnam to OECD countries
 - X_i^{AD} : the share of Vietnam's exports of industry i to Asian Developing countries in total exports from Vietnam to Asia Developing countries

5.3.2D Regression techniques

The economic relations described above are assumed to be of linear form. In order to examine the relations between the labour intensity ratio, relative wage value-added per employee and exports, export shares are regressed against each variable separately. To take into account the scale effect, the share of production is added as an explanatory variable.

The cross-sectional regressions are first run for each year. However, most of the results are not significant, probably due to the small sample size (16 observations). Thus, the data needs to be pooled in some manner to minimise standard errors. Three basic regression methods – the fixed effect or least square dummy variable (LSDV) model,

the random effect model, and pooled generalised least square (GLS) model – are considered. The LSDV³³ model is applied in this study since the random effect, which assumes no correlation between the constant term and explanatory variable, and the pooled GLS model, which assumes no variation in the constant term across sectors, do not fit the data well. The main assumption of the LSDV model is that the intercept parameter varies, but only across industry, not over time. Thus, all behavioural differences between industries and over time are captured by the intercept (Griffiths et al, 1993: 572). This assumption allows all the data of 16 industries for nine years to be pooled in one large cross-sectional data set. To capture behavioural differences across industries, an industry dummy variable is designed for each individual industry.

We define dummy variables for each industry as:

$$INDDUM_i = \begin{cases} 1 & \text{for industry } i \\ 0 & \text{otherwise} \end{cases}$$

with i from 1 to 16

The statistical equations to be estimated for each group of trade partners can be written as follows (equation 5.1 and 5.2 for the tests of the Ricardian and H-O models respectively):

$$X_{it} = \sum_{i=1}^{16} \delta_i INDDUM_i + \delta_{17} WA_{it} + \delta_{18} Y_{it} + e_{it} \quad (5.1)$$

$$X_{it} = \sum_{i=1}^{16} \beta_i INDDUM_i + \beta_{17} LI_{it} + \beta_{18} Y_{it} + e_{it} \quad (5.2)$$

There are special features of this model. First, there is no overall constant term. Instead, the 16 dummy variables, as in the equation above, define the intercept variables for each industry. Second, the model assumes that the error terms, e_{it} , are independent, and normally distributed $N(0, \sigma^2)$ for all observations. Thus, the best linear, unbiased estimator is the usual least squares estimator (Griffiths et al, 1993: 572).

Given the assumption that the intercept parameter does not vary over time, we need to test for behavioural differences over time, i.e. whether there is a relationship based on

³³ See Griffiths et al, 1993, p. 571 for a detailed description of the model.

time. If all industries react to time in the same way³⁴, then it may be worth introducing a dummy variable to capture these effects.

Similar to the dummy variables for each industry, the dummy variables for nine years are designed to pick up any structural effect that is not captured by the explanatory variables.

The time dummy variables are defined as:

$$YEARDUM_t = \begin{cases} 1 & \text{for year } i \\ 0 & \text{otherwise} \end{cases}$$

with t from 1 to 9

For each group of trading partner, the equations to be estimated are: (equations 5.3 and 5.4)

$$X_{it} = \sum_{t=1}^9 \alpha_t YEARDUM_t + \alpha_{10} WA_{it} + \alpha_{11} Y_{it} + e_{it} \quad (5.3)$$

$$X_{it} = \sum_{t=1}^9 \theta_t YEARDUM_t + \theta_{10} LI_{it} + \theta_{11} Y_{it} + e_{it} \quad (5.4)$$

To check for the time effects, the following hypotheses are tested:

$$H_0: \alpha_1 = \alpha_2 = \alpha_3 = \dots = \alpha_9$$

H₁: the α_t are not all equal

for equation (5.3) and

$$H_0: \theta_1 = \theta_2 = \theta_3 = \dots = \theta_9$$

H₁: the θ_t are not all equal

for equation (5.4)

A standard F-test is performed for each regression corresponding to each independent variable (LI and WA) and each group of partners. The results are worthy of note³⁵. There is almost no evidence to reject the null hypothesis in all the tests, indicating the absence of consistent patterns or changes within the dependent variables over time. The

³⁴ It is likely that some policy or structural changes in a period may affect the dependent variables (export share of each industry) in the same way.

³⁵ Results of the tests are presented in Appendix 5.8.

result can be taken to mean that there does not appear to be any such shocks to export shares during the nine years under investigation. This allows us to tentatively pool the data along the time domain.

Having tested for the time effects, a natural question to ask is whether there is evidence to suggest that different industries have different intercepts; or should the model be adequate if we simply assume that there are no behavioural differences across industries or time, and the data can be treated as one large sample of 144 (16 industries in 9 years) observations. To address this question, the following hypotheses are tested:

$$H_0: \delta_1 = \delta_2 = \delta_3 = \dots = \delta_{16}$$

$$H_1: \text{the } \delta_i \text{ are not all equal}$$

and

$$H_0: \beta_1 = \beta_2 = \beta_3 = \dots = \beta_{16}$$

$$H_1: \text{the } \beta_i \text{ are not all equal}$$

where δ_i and β_i are the coefficients for the dummy variables in equation (5.1) and (5.2).

Again, the standard F-test is performed for each regression corresponding to each independent variable (LI and WA) and each group of partners. Results of the tests are presented in Appendix 5.9. In contrast to the test for the time effects, the null hypotheses are rejected in all the tests for industry-specific effects confirming the existence of behavioural differences across industries.

The standard F-tests for the time effects and industry-specific effects strongly support the assumptions made about the intercepts and, thus, about our regression model.

5.4 RESULTS

5.4.1 TESTS OF THE RICARDIAN MODEL

Regression results of the tests of the Ricardian hypothesis for each group of trading partners are presented below. These regressions use pooled data in a LSDV model described in the previous section.

**REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES TO
WORLD MARKET ON WAGE VALUE-ADDED PER EMPLOYEE**

$$\begin{aligned} X^W = & -0.009WA + 1.147Y \\ & (-1.850) \quad (9.544) \\ & + 0.007INDDUM_1 + 0.006INDDUM_2 - 0.036INDDUM_3 + 0.003INDDUM_4 \\ & \quad (0.633) \quad (0.621) \quad (-3.269) \quad (0.270) \\ & - 0.015INDDUM_5 - 0.068INDDUM_6 - 0.091INDDUM_7 - 0.033INDDUM_8 \\ & \quad (-1.795) \quad (-4.744) \quad (-7.165) \quad (-3.874) \\ & - 0.004INDDUM_9 + 0.001INDDUM_{10} + 0.020INDDUM_{11} - 0.153INDDUM_{12} \\ & \quad (-0.333) \quad (0.037) \quad (2.121) \quad (-4.561) \\ & - 0.034INDDUM_{13} + 0.932INDDUM_{14} + 0.071 INDDUM_{15} - 0.012INDDUM_{16} \\ & \quad (-3.131) \quad (10.83) \quad (8.228) \quad (0.774) \end{aligned}$$

$$R^2 = 0.8669 \qquad \text{Adjusted } R^2 = 0.8490 \qquad \text{Durbin-Watson} = 1.6443$$

Notes: numbers in brackets are t-statistics.

**REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES TO
OECD MARKETS ON WAGE VALUE-ADDED PER EMPLOYEE**

$$\begin{aligned} X^O = & -0.012WA + 1.175Y \\ & (-2.044) \quad (8.668) \\ & - 0.002NDDUM_1 + 0.003INDDUM_2 - 0.041INDDUM_3 - 0.012INDDUM_4 \\ & \quad (0.152) \quad (0.324) \quad (-3.322) \quad (-0.858) \\ & - 0.018INDDUM_5 - 0.069INDDUM_6 - 0.091INDDUM_7 - 0.036INDDUM_8 \\ & \quad (-1.919) \quad (-4.278) \quad (-6.358) \quad (-3.735) \\ & - 0.002INDDUM_9 + 0.006INDDUM_{10} - 0.039INDDUM_{11} - 0.168INDDUM_{12} \\ & \quad (-0.176) \quad (0.617) \quad (-3.637) \quad (-4.453) \\ & - 0.049INDDUM_{13} + 0.153INDDUM_{14} + 0.109INDDUM_{15} + 0.018INDDUM_{16} \\ & \quad (-4.006) \quad (15.81) \quad (11.24) \quad (1.005) \end{aligned}$$

$$R^2 = 0.8855 \qquad \text{Adjusted } R^2 = 0.8700 \qquad \text{Durbin-Watson} = 0.9942$$

Notes: numbers in brackets are t-statistics.

**REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES TO
ASIAN DEVELOPING MARKET ON WAGE VALUE-ADDED PER EMPLOYEE**

$$\begin{aligned} X^{AD} = & -0.003WA + 0.656Y \\ & (-0.393) \quad (4.425) \\ & - 0.006INDDUM_1 + 0.008INDDUM_2 - 0.027INDDUM_3 + 0.025INDDUM_4 \\ & \quad (-0.483) \quad (0.706) \quad (-1.961) \quad (1.839) \\ & - 0.014INDDUM_5 - 0.047INDDUM_6 - 0.060INDDUM_7 - 0.011INDDUM_8 \\ & \quad (-1.369) \quad (-2.667) \quad (-3.810) \quad (-1.020) \\ & - 0.012INDDUM_9 - 0.006INDDUM_{10} + 0.104INDDUM_{11} - 0.074INDDUM_{12} \\ & \quad (-0.887) \quad (-0.593) \quad (8.965) \quad (-1.807) \\ & - 0.021INDDUM_{13} + 0.002INDDUM_{14} - 0.007INDDUM_{15} - 0.015INDDUM_{16} \\ & \quad (-1.577) \quad (0.135) \quad (-0.666) \quad (-0.795) \end{aligned}$$

$$R^2 = 0.7288 \quad \text{Adjusted } R^2 = 0.6922 \quad \text{Durbin-Watson} = 1.5052$$

Notes: numbers in brackets are t-statistics.

In all three tests for exports from Vietnam to the world, the OECD and the Asian developing countries, the coefficients of WA are negative. The coefficients are found to be statistically significant at 5 and 10 percent level in the regression using export data to OECD and the world respectively, but not significant in the regressions of exports to Asian developing countries.

The consistent negative sign of WA in the tests suggests that the export shares of Vietnam's manufacturing industries are negatively correlated with the industry's relative wage value-added per employee. This is in contrast to what is suggested by the Ricardian model. The results can be interpreted as showing that Vietnam tends to export more from industries that have low labour productivity.

This result, though not in line with the Ricardian hypothesis, is perhaps not surprising. In the analysis, labour productivity is measured by wage value-added per worker, which is the average return to the factor labour in each industry. On the one hand, return to the factor labour in an industry represents labour productivity; on the other hand, it reflects the skill level of the labour employed in the industry. The higher the workers' skill level, the higher their salary. From the latter angle, the regression results can be taken to mean that Vietnam's exports are negatively correlated with the skill level of labour

employed in the industry. Vietnam tends to export more products from industries using low-skilled workers. This interpretation is reasonable if considered in view of H-O model which suggests that as a country abundant in low-skill labour, Vietnam would export more of the goods that use low-skill labour intensively.

It should also be noted that the use of wage value-added per employee, as a proxy for labour productivity could be questionable. Since the wage value-added per employee, which reflects return to labour, is different across industries, here the assumption of homogeneous labour is violated. A more accurate measurement of labour productivity in the presence of heterogeneous labour would be the value-added per dollar wage (which is total value-added divided by total wage). However, this is exactly the inverse of the labour intensity ratio. As will be shown in the test of the H-O model, there is strong evidence of a positive relationship between the export share and the labour intensity ratio. Thus the inverse relationship is certainly rejected. Again, the Ricardian hypothesis does not hold even when the value-added per dollar wage is used as a proxy for labour productivity.

In short, given the nature of the available data and the assumptions previously made concerning the test, the regression results for all three groups of trading partners found no support for the Ricardian hypothesis in the case of Vietnam.

5.4.2 TESTS OF THE H-O MODEL

Equations in section 5.4.2A to 5.4.2C are results of the tests of the H-O hypothesis with respect to three groups of trading partners. As expected, the existing differences in factor endowments across the groups bring about substantial variation in outcomes. The following section will look at results for each group in turn.

5.4.2A Vietnam's Manufactured Exports to the World

Results of the regression using Vietnam's manufactured exports to the world are provided in the following equation. It can be seen that the performance of Vietnam's exports to the world bears a reasonable relationship to labour intensity of the exporting industries. The coefficients of labour intensity ratios are positive (but not statistically

significant), revealing that Vietnam's manufactured exports to the whole world during the period 1990-1998 are positively correlated with the labour intensity ratio.

REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES TO WORLD MARKET ON LABOUR INTENSITY RATIO

$$X^W = 0.073LI + 1.092Y$$

(1.135) (9.333)

$$- 0.049INDDUM_1 - 0.040INDDUM_2 - 0.091INDDUM_3 - 0.034INDDUM_4$$

(-1.321) (-1.267) (-2.311) (-1.565)

$$- 0.058INDDUM_5 - 0.116INDDUM_6 - 0.119INDDUM_7 - 0.071INDDUM_8$$

(-1.708) (-3.635) (-4.900) (-2.091)

$$- 0.051INDDUM_9 - 0.035INDDUM_{10} - 0.011INDDUM_{11} - 0.177INDDUM_{12}$$

(-1.745) (-1.370) (-0.453) (-4.405)

$$- 0.075INDDUM_{13} + 0.041INDDUM_{14} + 0.014 INDDUM_{15} - 0.037INDDUM_{16}$$

(-2.118) (0.941) (0.333) (-1.663)

$$R^2 = 0.8647 \qquad \text{Adjusted } R^2 = 0.8465 \qquad \text{Durbin-Watson} = 1.5838$$

Notes: numbers in brackets are t-statistics.

The outcomes are as expected and in favour of the H-O model. As a labour-abundant country, Vietnam's comparative advantage vis-à-vis the world must be in industries which are relatively labour-intensive. The expectation from the H-O hypothesis that Vietnam's manufactured exports would concentrate on labour-intensive industries is proved by the regression result above.

5.4.2B Vietnam's Manufactured Exports to OECD Countries

The result of the regression using the data of manufactured exports to OECD countries is more conclusive. There exists a strong positive correlation between the dependent variable and the labour intensity ratio. The coefficient of the labour intensity ratio is not only positive but also statistically significantly different from zero at the five percent level.

Comparing the regressions for the OECD with that for the world, not only is the explanatory power of the regression coefficients for the OECD countries higher than

that for the whole world, the coefficient of LI is both larger and at a higher significant level. At a higher level of development than the world average, the OECD group possesses relatively more capital than labour compared to the world average. The composition of OECD's imports from Vietnam is thus expected to be more responsive to the level of labour factor embodied in the products. We would expect that the coefficient of LI in the regression equation with regard to the OECD to be statistically greater than that with regard to the world.

**REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES
TO OECD MARKETS ON LABOUR INTENSITY RATIO**

$$X^O = 0.177LI + 1.109Y$$

(2.485) (8.543)

- 0.119INDDUM₁ - 0.095INDDUM₂ - 0.161INDDUM₃ - 0.084INDDUM₄
(-2.914) (-2.710) (-3.687) (-3.481)

- 0.116INDDUM₅ - 0.169INDDUM₆ - 0.154INDDUM₇ - 0.128INDDUM₈
(-3.081) (-4.765) (-5.709) (-3.382)

- 0.099INDDUM₉ - 0.072INDDUM₁₀ - 0.106INDDUM₁₁ - 0.227INDDUM₁₂
(-3.054) (-2.513) (-4.057) (-5.100)

- 0.146INDDUM₁₃ + 0.031INDDUM₁₄ - 0.019 INDDUM₁₅ - 0.073INDDUM₁₆
(-3.701) (0.642) (-0.396) (-2.909)

$R^2 = 0.8872$ Adjusted $R^2 = 0.8720$ Durbin-Watson = 0.9594

Notes: numbers in brackets are t-statistics.

In the regression for OECD countries, we test the null hypothesis that β_{17} is equal to 0.073, which is the coefficient of LI in the regression for manufactured exports to the whole world. Unfortunately, there is insufficient evidence to reject the null hypothesis even at the ten percent significance level (p-value=0.147). Therefore, we cannot conclude that Vietnam's exports to OECD countries are more in line with the labour intensities of the goods than are the exports to the world as a whole. Although it is not an expected outcome, the fact that exports to OECD countries account for a large part of Vietnam's total exports may be a reason for the inconclusive result of the test. In addition, data limitations may also prevent the test from yielding a more definite result.

5.4.2C Vietnam's Manufactured Exports to Asian Developing Countries

The results of the regression exercise relating to Vietnam's manufactured exports to Asian developing countries are reported in the regression equation below. As can be seen from the regression equation, the correlation coefficients corresponding to the labour-intensity ratios are insignificant and of the 'wrong' sign. The negative sign of the coefficients of LI indicates an inverse correlation between the export performance and the level of labour intensity of the manufacturing industry.

REGRESSION OF EXPORT SHARE OF MANUFACTURING INDUSTRIES TO ASIAN DEVELOPING MARKET ON LABOUR INTENSITY RATIO

$$X^{AD} = -0.023LI + 0.669Y$$

(-0.291) (4.686)

$$+ 0.010INDDUM_1 + 0.022INDDUM_2 - 0.010INDDUM_3 + 0.036INDDUM_4$$

(0.227) (0.568) (-0.215) (1.359)

$$- 0.001INDDUM_5 - 0.033INDDUM_6 - 0.051INDDUM_7 + 0.001INDDUM_8$$

(-0.012) (-0.835) (-1.719) (-0.031)

$$+ 0.002INDDUM_9 - 0.005INDDUM_{10} + 0.113INDDUM_{11} - 0.067INDDUM_{12}$$

(-0.052) (0.150) (3.932) (-1.369)

$$- 0.009INDDUM_{13} + 0.017INDDUM_{14} + 0.010INDDUM_{15} - 0.001INDDUM_{16}$$

(-0.196) (0.331) (0.187) (-0.035)

$R^2 = 0.7286$ Adjusted $R^2 = 0.6920$ Durbin-Watson = 1.5092

Notes: numbers in brackets are t-statistics.

The result raises several questions. Firstly, our assumption that Vietnam is a labour-abundant country may not hold in relation to the Asian developing countries. However, this question is testable and a rough comparison would reveal that the assumption does hold. Secondly, the developing countries in Asia are, on the whole, more protectionist in respect of imports of manufactured goods than are both the OECD and the world on average. High barriers against imported goods mean that exports of some manufactured goods could not gain a high share compared to what would have been if there were no trade barriers in place. In addition, Vietnam has a comparative advantage in and produces many of the same goods as other Asian developing countries. Thus it is likely

that high protection falls more on those goods that Vietnam tends to export, severely distorting the export patterns of Vietnam to the group. Lastly, it is possible that exporters of labour-intensive goods in Vietnam have not paid due attention to markets in other Asian developing countries. Manufactured exports (mostly garments and footwear) have been directed mainly to the European Union, Japan and increasingly to the United States. Exports to developed countries receive strong support from the government in terms of market information, negotiation of quotas and trading agreements. Vietnam's share of labour-intensive exports in the OECD is believed to be still below its full potential. Therefore, the OECD market, rather than the developing countries, is now the target market for manufactured exports from Vietnam.

In sum, the tests of the H-O model fail for manufactured exports from Vietnam to other Asian developing countries, but pass for OECD and the world as a whole.

5.4.2D Other Industry-Specific Factors

Looking at the differences across industries, it is found that the type of industry does indeed affect the relationship between the export share and the labour productivity ratio. Comparing the adjusted R^2 for the regressions using pooled data without the dummy variables and those with the industry dummy variables, it is clear that there is a large improvement in the adjusted R^2 when industries are segregated³⁶. Thus the industry dummy variables themselves capture a large part of the relationship. This is not surprising when one considers that this sort of pooling implies that all behavioural differences between individual industries and over time are captured by the intercept. We can say that export shares are very much industry-specific.

Table 5.1 shows the coefficients of the 16 industry dummy variables in all the regressions for the labour intensity ratio and the relative wage value-added per worker. As defined in the methodology section, dummy variable of industry i takes the value of 1 for industry i and 0 for all other industries. Thus the coefficient of the dummy variable $INDDUM_i$ (with i running from 1 to 16) is the intercept of the regression equation corresponding to industry i . Consequently, each estimate of equations (5.1) and (5.2) can be segregated into 16 equations for 16 industry such as:

³⁶ Regression equations using pooled cross-sectional time-series data without the introduction of industry dummy variables are presented in Appendix 5.10.

$$X_{it} = \text{INDDUM}_i + g_{17}LI_{it} + g_{18}Y_{it}$$

$$X_{it} = \text{INDDUM}_i + b_{17}WA_{it} + b_{18}Y_{it}$$

where subscripts i and t refer to industry and time; g and b are the estimates of the coefficients δ and β .

For two industries i and j (with $i \neq j$) that share the same labour intensity ratio or relative wage value-added per worker and production level, the difference between their share of exports exactly equals the difference between the coefficients of the respective industry dummy variables.

From Table 5.1, it is clear that in all regressions, the coefficients for the industry dummy variables vary greatly. Cross-industry comparisons reveal special patterns in these coefficients. The coefficients of the dummy variables of the garment industry are positive in all the regressions. Pottery and glass, food processing, and leather and leather-like industries have positive intercepts for most of the regressions, while all other industries tend to have negative intercepts. Thus there is something else other than just the explanatory variables – wage value-added per employee (or labour intensity) and production level – that makes export shares of these industries different. In the case of the garment and the leather and leather-like industries, one possible answer is the level of technology employed in production. As the technologies used in the two industries are not sophisticated, development of these industries is a “natural” process in a country at the early stage of development like Vietnam. In addition, the fact that the industries are very labour-intensive draws the attention of foreign investors who bring in capital and international know-how. Thus domestic production capacities are increasing quickly and technology and equipment are rapidly being replaced (Spinanger, 2000).

It should also be noted that the coefficients for the dummy variables of these industries (garments, leather and leather-like) are significant only in the Ricardian tests for exports to the world and to OECD countries, but not in the tests for the H-O model. Since in the tests of the Ricardian model, the dummy variables also cover the effects of the differences in labour intensity across industries, one can infer that the labour intensity is an important factor that makes these industries export-oriented.

TABLE 5.7
COEFFICIENTS OF INDUSTRY DUMMY VARIABLES

No.	Industry for which dummy variables present	World		OECD		Asia Developing Countries	
		Ricardian model	H-O model	Ricardian model	H-O model	Ricardian model	H-O model
1	Ferrous metals	0.007	-0.005	-0.002	-0.119**	-0.006	0.010
2	Non-ferrous metals	0.006	-0.004	-0.003	-0.095**	0.008	0.022
3	Machinery	-0.036**	-0.091*	-0.042**	-0.161**	-0.027	-0.010
4	Electronic and Electric equipment	0.003	-0.034	-0.011	-0.084**	0.025	0.036
5	Metal Products	-0.015	-0.058	-0.018	-0.116**	-0.014	-0.001
6	Chemicals	-0.68**	-0.116**	-0.069**	-0.169**	-0.047**	-0.033
7	Building products	-0.091**	-0.119**	-0.091**	-0.154**	-0.060**	-0.051
8	Processing of wood and forestry products	-0.033**	-0.007*	-0.036**	-0.128**	-0.011	0.001
9	Paper	-0.004	-0.051	-0.002	-0.099**	-0.012	0.002
10	Pottery and Glass	0.0003	0.035	0.006	0.072	-0.006	0.005
11	Food Processing	0.020*	0.011	-0.039**	-0.106**	0.104**	0.113**
12	Foodstuff processing	-0.153**	-0.176**	-0.168**	-0.227**	-0.075	-0.067
13	Textiles	-0.034**	-0.075*	-0.049**	-0.146**	-0.021	-0.009
14	Garments	0.093**	0.041	0.153**	0.031	0.001	0.018
15	Leather and Leather-like	0.071**	0.015	0.108**	-0.195	0.007	0.010
16	Printing	-0.012	-0.038	0.018	-0.073**	-0.015	-0.001

Notes: *- significant at 5 percent level

** - significant at 1 percent level

As far as the garment industry is concerned, although it develops without government protection, export growth of garments has benefited from continued increase of quotas from the EU based on the Agreement on Textiles and Garments Trade between Vietnam and the EU. This, coupled with large differences in the level of development between Vietnam and the world average as well as the OECD, makes production of garments in Vietnam more cost-effective. The export of leather and leather-like products follows a similar pattern to that of the garment industry in relation to the world and to the Asian developing countries. However, given its highest level of labour intensity, exports to OECD markets appear to be below full potential. This is understandable because during the period from 1990 to 1998, exports of leather and leather-like products (usually in the form of footwear, handbags and travellers' bags) were constrained to a great extent by quotas from the European Union and high tariffs from the United States. Export of footwear, handbags and travellers' bags have soared in the last few years and are expected to increase even more as the Bilateral Trade Agreement between Vietnam and the United States comes into effect.

It should be admitted that from the supply side, although Vietnam has comparative advantage in labour-intensive products, this advantage has not been fully utilised by Vietnamese producers. Vietnamese entrepreneurs seldom recognise the importance of focusing on their customers or the value of marketing their products. They rarely take the initiative in seeking new buyers or experimenting with new designs and new products. Most of Vietnam's garment and footwear companies are operating under subcontract with HongKong, South Korean and Taiwanese brokers. The result is that while foreign brokers provide the fabrics, accessories and patterns, Vietnamese producers just follow instructions (CMT production is the most common: cut, make and trim). They are entirely passive in responding to market changes. Not only is the value-added low under this type of operation, but the industry is also very vulnerable as orders can easily go to China, Bangladesh and Myanmar where the labour cost is just as competitive (Vo, 2001).

Comparing the regression results for manufactured exports to OECD and Asian developing countries, the difference is notable. Two industries – food processing and electronic and electric equipment – seem to do better in the markets of Asian developing countries than in OECD markets. With regard to the food processing industry, on the

demand side, the Asian developing countries, being the most populous group, provide a large market for Vietnamese food. On the supply side, it is possible that the low costs of inputs into the food processing industry help keep prices down, making Vietnamese processed foods attractive in the markets of the Asian developing countries. In addition, Vietnam's final processed foods have not been widely accepted in the OECD market, perhaps for reasons of low quality. Thus developing countries are still the most important importers of Vietnam's processed food. In many cases, Vietnam's semi-processed food is imported to be used as inputs for the food-processing industry of the importing countries.

The same reasoning can be applied for the observed export-orientation of the electronic and computer industry. It is more likely that products of this industry are exported as intermediate goods rather than final products to other Asian developing countries. As a new export industry, this result highlights Vietnam's participation in the international chain of production of electronic goods, thus greater integration of Vietnam in ASEAN would thus be beneficial for development of electronic industry.

On the whole, the coefficients of the industry dummy variables not only exhibit behavioural differences across industries but also within industries with respect to different trading partners. This again lends support to the H-O model, which suggests relative factor endowment as a determinant of the pattern of international trade.

5.5 SUMMARY

The chapter has tested two explanations of observed trade patterns of countries, the Ricardian and H-O hypotheses, using Vietnam's manufactured exports to three selected groups of partner countries – the world, the OECD and the Asian developing countries. Three main conclusions can be drawn from the analysis.

Firstly, using relative wage value-added per employee as a proxy for labour productivity in the test of the Ricardian theory, the result shows a negative relationship between the export shares of Vietnam's manufactured exports and labour productivity. Even if one uses value-added per dollar of wage as a measure of labour productivity, the negative relationship still exists. The results can be taken to mean that, everything being equal, the lower the labour productivity of an industry, the higher the share of that industry in

total exports. Assuming the validity of the assumption made about cross-country wage structure, the Ricardian explanation is rejected in Vietnam's manufactured exports.

In contrast, in the two regressions of manufactured exports to the world and OECD countries there is strong support for the H-O hypothesis, which predicts that Vietnam would export the goods that use its low-skilled workforce intensively. The coefficients of LI in both the regressions with respect to the world and the OECD are of the expected sign, and that with respect to the OECD is significant at the 5 percent level. On the other hand, when manufactured exports to Asian developing countries are analysed, the coefficient of LI is negative and insignificant.

Finally, the coefficients of the industry dummy variables indicate that, apart from the ratios in which labour and capital are combined and, of course, the relative size of an industry, other industry-specific factors do indeed matter in Vietnam's manufactured exports. Two industries, garments and leather and leather-like, tend to be export-oriented, especially towards OECD countries and the world, while electric, electronics and food processing industries tend to be export-oriented towards the markets of the Asian developing countries.

In conclusion, it must be remembered that the results of the empirical tests involving regressions need to be interpreted with caution. On the statistical side, since we are essentially dealing with a cross-sectional, time-series model, there are potential problems inherent in both, such as autocorrelation and/or heteroskedasticity. The limitation of the data set, due to the size of the time domain and the number of industries make corrections for these problems difficult. Similarly, on the economic theory side, misspecification of the functional relationships and/or leaving out of the model other relevant factors can, among other things, make the results less useful for policy-making purposes. These results are best viewed as indicative only, with further definitive results to be expected as the data quality improves and more robust statistical tests become possible.

Chapter 6

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

6.1 INTRODUCTION

The objective of this research has been to examine the external sector of Vietnam since 1986, with particular focus on export growth and patterns.

The questions that this study attempts to answer are: (i) “How has the Vietnamese trade regime evolved and what are its impacts on the overall export performance?” (ii) “How has Vietnam’s export composition and structure changed?” (iii) “What have been the contributions of export composition and structure, and its competitiveness to export expansion?” and (iv) “To what extent has the observed composition of exports been in line with established trade theories?”

6.2 CHAPTER SUMMARY

Chapter 1 provides a brief summary of the literature on trade and growth and the export-oriented development strategy that has been applied successfully in some developing countries. This is followed by an explanation of the objectives, data and methodology, and structure of the study.

Since the economic development path of Vietnam possesses some distinct characteristics, Chapter 2 reviews the economy’s evolution since the start of the reform in 1986 and examines the sources of the economic growth from the demand side. As a demand source, export is found to be playing an increasingly important role in providing an additional outlet for Vietnam’s rising domestic output relative to the other sources (domestic demand and import substitution). The results provide evidence for the importance of export in economic growth of Vietnam.

In Chapter 3, the evolution of the trade regime is portrayed. This is followed by an examination of trade performance, export composition and direction. Vietnam's changing export composition is shown to reflect the industrialisation process with increasing share of manufactured exports. In terms of concentration, the export composition is found to be less diversified after the reform while export destination has been more diversified, with the market diversification index in the year 2000 more than twice that of 1986. This increased market diversification can be regarded as a success in helping the government's trade policy achieve increased market diversification which was one of the major policy objectives. Increased number of trading partners also confirms Vietnam's deeper economic integration with the world economy.

Since Vietnam's exports have grown at a much faster rate than the world average, the country's share in world export has also expanded significantly. Chapter 4 examines the reasons behind this spectacular share-gain. The chapter works out the relative effects of commodity composition, market distribution, commodity adaptation, market adaptation, and competitiveness on export growth. Using a modified version of the CMS model, the analysis reveals a striking fact that improvement in the competitiveness of Vietnamese commodities has been the driving force of export growth. The competitiveness effect accounts for more than 100 percent of export growth while the combined effect of other factors is negative. This finding is crucial in showing that it is this internal factor that is responsible for export growth over the period 1986-1999. It is possible that trade policy reform has played an important role in increasing export competitiveness. The move toward export-oriented development strategy permits Vietnam to take better advantage of the available technological opportunities, and forces policies on the government that generally lead to better economic performance by the private sector.

Lastly, the composition of Vietnam's manufactured exports is tested in Chapter 5. Two econometric models are developed to test the Ricardian and the H-O hypotheses using the data for 16 manufacturing industries of Vietnam from 1990 to 1998. The tests are conducted with respect to three selected groups of partners – the world, the OECD and the Asian developing countries. The regression results found no support for the hypothesis, based on the logic of the Ricardian model, that the export shares of manufacturing industries were positively related with the industry's labour productivity, defined as the wage value-added per employee. On the other hand, there is evidence to

suggest that Vietnam's manufactured exports to the OECD and the whole world were along the lines of the H-O hypothesis. The results can be interpreted to mean that once the production level is controlled for, industries which have a higher labour intensity ratio tend to have a higher share in Vietnam's total export. Exports to Asian developing countries, however, do not follow the pattern suggested by the H-O theory.

6.3 CONCLUDING OBSERVATIONS

The study has served the purpose of providing some empirical insights into Vietnam's export performance during the reform process and into the application of some of the theories of international trade to an economy in transition. Some of the observed facts are found to be in line with theoretical predictions.

Overall, Vietnam's trade reform has brought about improvement in trade performance and has benefited Vietnam's economic growth and industrialisation process significantly.

One important conclusion from the analysis is that, since the 1990s, while strengthening the competitiveness of some agricultural and fishery products, such as rice, coffee and seafood, Vietnam's comparative advantage has shifted towards labour-intensive manufacturing industries. The findings are in conformity with the Vietnamese government's policy of promoting the production of labour-intensive goods as part of the industrialisation process. The development of labour intensive industries is facilitated by the economic integration policy which pave the way for Vietnamese goods to penetrate into new markets. Vietnam's gaining access to the OECD economies, via the conclusion of several trade agreements show trade policies assist industrial development. The study, however, suggests that Vietnam's export of labour intensive products to the OECD markets are not yet up to its full potential. To further benefit from markets of the developed countries, it is important that Vietnam broaden its economic ties with the groups. Trade policy should focus on both regional and bilateral level. It should be noted that country-specific policies could prove to be effective, apart from regional policy.

As exports of some manufactured products, such as food processing and electric and electronic products, tend to be export-oriented toward markets of Asian developing countries, it is expected that deeper co-operation with and integration to the ASEAN would benefit development of these sectors in Vietnam.

The study also shows clearly – and rather predictably – that Vietnam’s continued export growth will be dependent on its ability to improve and sustain competitiveness. Comparative advantage based on low-cost labour and natural resources is not enough for Vietnamese products to succeed in the world market. Other non-price factors need to be improved. For sustainable development, enterprises need to change their strategic focuses and create competitive advantages based not only on factor abundance but also on more unique products and processes as well. Better quality control and marketing techniques, together with innovation and the capacity to upgrade or change the products and processes are needed if Vietnamese enterprises are to maintain and strengthen their competitiveness.

The impact of trade reform on export performance and industrialisation, which has been significant over the last fifteen years, is likely to lessen as Vietnam’s trade regime become more open and market-based. In the past, trade helped by providing markets for Vietnamese products. With deeper economic integration, it will bring in fierce competition that pushes domestic producers to transform themselves to become competitive in world market.

6.3 LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH

The results obtained from the study provide some important insights into development of the export sector of Vietnam. However, it should be noted that several limitations apply to this study.

First, since the study relates to several areas of international trade such as trade and growth, trade reform, determinants of exports, sources of comparative advantage and so on, where literature are both plentiful and available, it makes no attempts to review all related literature fully. Instead, review of the economy and the trade sector of Vietnam

is of focus. This choice is made due to the time-bound nature of the study so as to get the most in the limited time frame.

Second, trade reform is closely related to reform in other areas such as foreign investment policies, industrial policies, banking, for example. However, incorporating reforms in these areas to trade reform would be a problematic task, and would potentially distract from, rather than add to, an understanding of the trade reform. Review of these trade-related policy reforms is thus left out of the study.

The third limitation of the study is the lack of detailed focus on sectoral-level contribution of export and/or changing export composition and market structure at sectoral level due to data limitation. Application of the Lewis model at a sectoral level, and/or studying the RCA at a more disaggregated level, and testing trade theories using more detailed classification of industries are some areas where the study can be improved upon. These and similar other ideas are for further research.

Fourthly, it is clear from the assumptions made in Chapter 5 of the study that, the concept ‘comparative advantage’ has not been treated in an ‘authentic’ manner due to the lack of cross-country comparable data. Comparative advantage trade theories can be tested more rigorously once comparable and more disaggregated production-related data (such as productivity, wages and value added) are available for Vietnam and all trading countries

One of the important questions remains to be asked is “what determines the competitiveness of Vietnamese exports”. This question alone would require a great amount of research to be done, but it would also provide an important scope for policy adjustment, not only in trade sector but also in production, finance and administrative areas.

Despite these and (no doubt) other limitations, the study has shed some useful light on the evolution in recent years of a significant transitional economy. That indeed is the contribution to knowledge that this dissertation makes.

APPENDICES

APPENDIX 4.1

COMMODITY AGGREGATION FOR CMS ANALYSIS

No.	Commodity	SITC Equivalent
1	Fish:	031, 031
2	Rice:	042
3	Fruit and Vegetable:	051-055
4	Coffee:	071
5	Oil Seeds:	221
6	Coal, Coke, Briquettes:	321
7	Textile:	65
8	Electrical Machinery:	72
9	Furniture:	821
10	Travel Goods, Handbags:	831
11	Clothing:	84
12	Footwear:	851

APPENDIX 4.2

RESULT OF CMS INCLUDING EXPORT OF CRUDE OIL.

Unit: Percentage

Commodity	MSE	CCE	CAE	MCE	MAE	All effects
Fish	4.54	-0.26	0.63	0.76	-1.65	4.02
Rice	2.88	0.00	-0.69	0.00	-0.13	2.04
Fruit and Vegetable	0.64	-0.29	-0.02	0.08	-0.04	0.38
Coffee	20.75	-0.08	-13.16	0.02	-0.16	7.37
Oil Seeds	-1.34	-0.44	0.37	0.53	-0.51	-1.38
Coal, Coke, Briquettes	2.57	-0.84	-1.56	-0.19	0.11	0.09
Crude oil ³⁷	41.14	-0.17	-19.38	-0.07	-0.12	21.41
Textile	3.19	-0.01	-0.36	0.00	-0.04	2.78
Electrical Machinery	2.08	0.17	2.99	-0.04	0.22	5.41
Furniture	1.87	0.00	1.87	0.00	-0.22	3.53
Travel Goods, Handbags	0.00	-0.02	3.02	0.00	-0.16	2.85
Clothing	11.30	0.03	6.87	0.02	-1.30	16.92
Footwear	32.82	-0.58	-9.68	-0.16	-0.47	21.93
Others	11.77	-1.00	1.90	1.05	-1.06	12.66
Total	134.21	-3.50	-27.19	2.00	-5.52	100.00

Source: Computed by author

³⁷ Crude oil is under SITC 331

APPENDIX 4.3

CROSS-COUNTRY COMPARISON OF UNIT LABOUR COST

Year	Indonesia	Malaysia	Korea	Taiwan	Singapore	Vietnam
1992	0.24	0.44	0.36	0.48	0.61	0.40
1993	0.21	0.43	0.35	0.48	0.63	0.39
1994	0.17	0.39	0.35	0.55	0.67	0.37
1995	0.24	0.39	0.34	0.57	0.69	0.33
1996	0.24	0.38	0.34	0.51	0.70	0.32
1997	0.24	0.36	0.34	0.49	0.67	0.38
1998	0.30	0.36	0.38	0.49	0.66	0.39

Source: NAPES database

APPENDIX 5.1

INDUSTRY GROUPING

No.	Industry	SITC Equivalent
1	Ferrous metals	67
2	Non-ferrous metals	68
3	Machinery	71
4	Electronic and Electric equipment	72
5	Metal Products	69
6	Chemicals	51-59
7	Building products	661, 662
8	Processing of wood and forestry products	63
9	Paper	64
10	Pottery and Glass	664, 665, 666
11	Food Processing	042, 046, 047, 048
12	Foodstuff processing	01, 03, 053, 055
13	Textiles	65
14	Garments	84
15	Leather and Leather-like products	61, 83, 85
16	Printing	892

APPENDIX 5.2
RELATIVE WAGE VALUE-ADDED PER EMPLOYEE

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	1.21	2.84	2.73	2.86	2.28	1.80	2.03	1.98	1.90
Non-ferous metals	1.06	0.83	0.91	1.22	1.31	1.48	1.95	1.84	1.84
Machinery	1.14	1.25	1.75	2.18	2.45	2.72	2.63	2.17	2.07
Electronic and Electric equipment	0.70	0.73	0.99	1.47	1.42	1.49	1.52	1.27	1.39
Metal Products	0.64	0.95	0.76	0.58	0.85	1.09	1.06	1.00	1.08
Chemicals	1.88	2.07	2.35	2.24	2.26	2.48	2.32	2.10	2.15
Building products	0.86	0.78	0.72	0.76	0.67	0.73	0.77	0.83	0.79
Processing of wood and forestry products	0.43	0.49	0.35	0.37	0.47	0.50	0.47	0.30	0.30
Paper	1.41	1.85	1.83	1.56	1.75	2.03	1.92	1.72	1.76
Pottery and Glass	0.77	0.70	0.77	0.72	0.62	0.76	0.85	0.85	0.87
Food Processing	0.70	0.65	0.54	0.43	0.63	0.84	0.81	0.84	0.85
Foodstuff processing	1.59	1.26	1.20	1.16	1.37	1.24	1.23	1.27	1.28
Textiles	0.52	1.03	1.00	0.88	1.01	0.87	0.89	0.87	0.88
Garments	1.24	0.93	1.02	1.23	0.65	0.87	0.88	1.06	1.07
Leather and Leather-like products	0.93	1.23	1.59	1.89	2.17	1.14	1.00	1.23	1.12
Printing	1.37	1.38	1.46	1.63	2.67	2.21	2.03	3.03	3.18

Source: Computed from Institute for Statistical Science (2000)

APPENDIX 5.3

LABOUR INTENSITY RATIO

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	0.58	0.57	0.57	0.57	0.55	0.55	0.55	0.57	0.55
Non-ferous metals	0.42	0.41	0.40	0.40	0.53	0.53	0.54	0.54	0.54
Machinery	0.62	0.62	0.61	0.61	0.57	0.57	0.58	0.57	0.59
Electronic and Electric equipment	0.31	0.30	0.30	0.30	0.32	0.32	0.32	0.32	0.32
Metal Products	0.48	0.48	0.49	0.49	0.53	0.53	0.53	0.54	0.54
Chemicals	0.45	0.45	0.43	0.43	0.47	0.47	0.47	0.48	0.48
Building products	0.30	0.30	0.31	0.31	0.33	0.33	0.33	0.34	0.34
Processing of wood and forestry products	0.50	0.50	0.49	0.48	0.53	0.53	0.53	0.52	0.53
Paper	0.43	0.43	0.44	0.44	0.43	0.43	0.43	0.45	0.46
Pottery and Glass	0.40	0.41	0.46	0.46	0.34	0.34	0.35	0.36	0.36
Food Processing	0.33	0.33	0.37	0.37	0.33	0.33	0.33	0.33	0.33
Foodstuff processing	0.32	0.32	0.29	0.29	0.34	0.34	0.34	0.35	0.35
Textiles	0.49	0.49	0.47	0.47	0.56	0.56	0.56	0.56	0.57
Garments	0.68	0.68	0.67	0.67	0.65	0.65	0.64	0.67	0.67
Leather and Leather-like products	0.63	0.64	0.67	0.65	0.69	0.70	0.69	0.72	0.73
Printing	0.36	0.36	0.33	0.33	0.31	0.31	0.32	0.33	0.35

Source: Computed from Institute for Statistical Science (2000)

APPENDIX 5.4

INDUSTRIES' SHARE OF IN TOTAL MANUFACTURING PRODUCTION

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	0.008	0.018	0.019	0.020	0.019	0.019	0.022	0.020	0.020
Non-ferous metals	0.009	0.008	0.008	0.009	0.009	0.011	0.015	0.014	0.014
Machinery	0.042	0.038	0.046	0.053	0.058	0.063	0.062	0.053	0.052
Electronic and Electric equipment	0.021	0.021	0.025	0.032	0.036	0.039	0.043	0.038	0.039
Metal Products	0.020	0.030	0.019	0.015	0.020	0.026	0.027	0.028	0.029
Chemicals	0.080	0.076	0.088	0.080	0.083	0.087	0.085	0.080	0.081
Building products	0.091	0.080	0.077	0.092	0.093	0.096	0.093	0.089	0.084
Processing of wood and forestry products	0.036	0.038	0.028	0.033	0.044	0.056	0.053	0.034	0.034
Paper	0.015	0.018	0.021	0.017	0.019	0.023	0.023	0.021	0.021
Pottery and Glass	0.011	0.010	0.010	0.009	0.009	0.010	0.011	0.011	0.011
Food Processing	0.051	0.047	0.037	0.029	0.036	0.053	0.052	0.052	0.053
Foodstuff processing	0.404	0.301	0.299	0.300	0.275	0.241	0.241	0.241	0.242
Textiles	0.054	0.088	0.086	0.077	0.092	0.068	0.063	0.053	0.054
Garments	0.029	0.023	0.025	0.035	0.029	0.046	0.047	0.053	0.053
Leather and Leather-like products	0.008	0.007	0.008	0.012	0.024	0.033	0.036	0.066	0.066
Printing	0.007	0.006	0.007	0.007	0.016	0.016	0.015	0.020	0.021

Source: Computed from Institute for Statistical Science (2000)

APPENDIX 5.5

INDUSTRY'S EXPORT SHARE IN TOTAL EXPORTS OF VIETNAM

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	0.0139	0.0064	0.041	0.0263	0.0013	0.0174	0.0015	0.0013	0.0011
Non-ferous metals	0.0038	0.0119	0.0132	0.0106	0.0047	0.006	0.0041	0.0029	0.0021
Machinery	0.0009	0.0014	0.0192	0.0096	0.0049	0.023	0.0064	0.0089	0.0067
Electronic and Electric equipment	0.0018	0.0009	0.0301	0.0187	0.0036	0.016	0.0197	0.0579	0.0714
Metal Products	0.0012	0.0007	0.0146	0.0112	0.0022	0.007	0.0035	0.0035	0.0057
Chemicals	0.0031	0.0022	0.0064	0.0066	0.0035	0.0117	0.0096	0.01	0.0096
Building products	0.0011	0.0002	0.0002	0.0005	0.0003	0.0001	0.0007	0.0022	0.0008
Processing of wood and forestry products	0.0032	0.0059	0.0084	0.016	0.014	0.0114	0.0121	0.0068	0.006
Paper	0.0034	0.001	0.003	0.0023	0.0023	0.0048	0.0036	0.0018	0.0018
Pottery and Glass	0.0014	0.0024	0.0024	0.0019	0.0022	0.0042	0.0067	0.0063	0.0072
Food Processing	0.113	0.0804	0.0582	0.0376	0.0709	0.0409	0.0606	0.0393	0.0722
Foodstuff processing	0.2389	0.2505	0.1378	0.1427	0.1746	0.1204	0.1198	0.1096	0.1046
Textiles	0.0185	0.0169	0.0854	0.074	0.024	0.0674	0.0258	0.0242	0.0228
Garments	0.0602	0.0824	0.123	0.14	0.154	0.138	0.171	0.157	0.149
Leather and Leather-like products	0.0124	0.0111	0.0228	0.0589	0.0996	0.1021	0.1532	0.1991	0.2027
Printing	0.0013	0.0018	0.0007	0.0004	0.0002	0	0.0004	0.0003	0.0001

Source: Grouping from data of NAPES database

APPENDIX 5.6

INDUSTRY'S EXPORT SHARE IN TOTAL EXPORTS OF VIETNAM TO OECD COUNTRIES

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	0.0009	0.0015	0.0001	0.0001	0.0001	0.0001	0.0003	0.0006	0.0011
Non-ferous metals	0.0006	0.0035	0.0048	0.0032	0.0011	0.0007	0.0002	0.0003	0.0005
Machinery	0.0003	0.0003	0.0002	0.0004	0.001	0.001	0.0018	0.0046	0.0051
Electronic and Electric equipment	0.0004	0.001	0.0014	0.0017	0.0018	0.0036	0.0109	0.0198	0.0285
Metal Products	0.0005	0.0002	0.0001	0.0003	0.0015	0.0009	0.0017	0.0032	0.0043
Chemicals	0.0033	0.0016	0.0029	0.0021	0.0024	0.0018	0.0028	0.0057	0.0072
Building products	0.0001	0.0001	0.0006	0.0014	0.0007	0.0009	0.0008	0.0009	0.0007
Processing of wood and forestry products	0.0022	0.0037	0.0052	0.0059	0.0082	0.0102	0.0104	0.0076	0.0073
Paper	0	0	0	0.0002	0.0005	0.0005	0.0013	0.0021	0.0017
Pottery and Glass	0.0026	0.0041	0.0051	0.0085	0.0102	0.0094	0.0087	0.0092	0.0106
Food Processing	0.0018	0.0026	0.0042	0.0064	0.0083	0.0007	0.0029	0.0076	0.0034
Foodstuff processing	0.2288	0.1939	0.1519	0.1463	0.1466	0.122	0.1057	0.1013	0.0988
Textiles	0.0197	0.022	0.0194	0.026	0.0306	0.0309	0.0285	0.0243	0.0235
Garments	0.0701	0.14	0.2181	0.231	0.22	0.211	0.226	0.204	0.193
Leather and Leather-like products	0.0061	0.0147	0.0362	0.1052	0.1485	0.1634	0.2058	0.2535	0.2613
Printing	0.0001	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Source: Grouping from data of NAPES database

APPENDIX 5.7

INDUSTRY'S EXPORT SHARE IN TOTAL EXPORTS OF VIETNAM TO ASIAN DEVELOPING COUNTRIES

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ferous metals	0.034	0.015	0.016	0.006	0.004	0.003	0.004	0.004	0.001
Non-ferous metals	0.008	0.029	0.04	0.029	0.013	0.014	0.013	0.011	0.007
Machinery	0	0.003	0.004	0.01	0.014	0.017	0.017	0.022	0.011
Electronic and Electric equipment	0.002	0.001	0.004	0.006	0.009	0.012	0.05	0.176	0.197
Metal Products	0	0.001	0	0.002	0.004	0.004	0.007	0.004	0.01
Chemicals	0.001	0.003	0.01	0.008	0.007	0.015	0.025	0.022	0.017
Building products	0	0	0	0	0.001	0.002	0.003	0.001	0
Processing of wood and forestry products	0.003	0.01	0.023	0.033	0.029	0.021	0.018	0.005	0.003
Paper	0.009	0.003	0.005	0.004	0.006	0.008	0.009	0.001	0.001
Pottery and Glass	0.001	0.003	0.003	0.003	0.002	0.002	0.003	0.004	0.004
Food Processing	0.207	0.095	0.147	0.068	0.074	0.136	0.144	0.097	0.258
Foodstuff processing	0.176	0.173	0.134	0.119	0.117	0.093	0.078	0.078	0.065
Textiles	0.013	0.017	0.014	0.019	0.032	0.036	0.039	0.04	0.031
Garments	0.003	0.006	0.017	0.033	0.045	0.041	0.05	0.034	0.021
Leather and Leather-like products	0.007	0.005	0.003	0.004	0.009	0.015	0.028	0.033	0.022
Printing	0	0	0	0	0	0	0	0	0

Source: Grouping from data of NAPES database

APPENDIX 5.8

RESULTS OF THE TESTS FOR TIME EFFECTS

		F-statistics	P-value
World	Ricardian test	0.1980	0.9912
	H-O test	0.0722	0.9998
OECD	Ricardian test	0.2863	0.9708
	H-O test	0.1376	0.9975
Asian Developing countries	Ricardian test	0.3743	0.9347
	H-O test	0.3733	0.9352

APPENDIX 5.9

RESULTS OF THE TESTS FOR INDUSTRY EFFECTS

		F-statistics	P-value
World	Ricardian test	29.740	0.000
	H-O test	23.839	0.000
OECD	Ricardian test	46.755	0.000
	H-O test	31.442	0.000
Asian Developing countries	Ricardian test	14.571	0.000
	H-O test	13.824	0.000

APPENDIX 5.10

REGRESSIONS USING OLS WITHOUT INDUSTRY DUMMY

VARIABLES

World	$X_i^W = -0.076 + 0.171LI + 0.585Y$ (-5.122) (5.996) (11.04)	R^2 Adjusted = 0.473
	$X_i^W = 0.024 - 0.011WA + 0.491Y$ (2.732) (-2.019) (8.776)	R^2 Adjusted = 0.387
OECD	$X_i^O = -1.138 + 0.299LI + 0.606Y$ (-7.605) (8.475) (9.272)	R^2 Adjusted = 0.458
	$X_i^O = 0.024 - 0.011WA + 0.444Y$ (1.965) (-1.424) (5.819)	R^2 Adjusted = 0.238
Asian Developing countries	$X_i^{AD} = 0.043 - 0.069LI + 0.326Y$ (2.837) (-2.364) (6.069)	R^2 Adjusted = 0.247
	$X_i^{AD} = 0.025 - 0.012WA + 0.361Y$ (3.064) (-2.373) (7.019)	R^2 Adjusted = 0.272

Notes: Numbers in brackets are the t-statistic.

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