THE ECONOMIC IMPACT OF INTERNATIONAL TOURISM IN VICTORIA 1994

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1995

THE ECONOMIC IMPACT OF INTERNATIONAL TOURISM ON VIETNAM'S ECONOMY

By

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Submitted in part fulfilment of the requirements for the degree of

Master of Business in Tourism Development

in the Faculty of Business

Victoria University of Technology

(Footscray Campus)

1995

DECLARATION

This thesis contains no material which has been previously submitted for any other academic award.

To the best of the candidate's knowledge, this thesis contains no material previously published or written by another person except where due references is made in the text of the thesis.

[redacted]

11/12/1995

Minh Duc Vu *Date*

ACKNOWLEDGMENTS

There are many individuals and organisations that have been most helpful in supplying information and assisting me during the process of this thesis.

I wish to thank my University Supervisor, Mr Ari Gamage, personally for the encouragement and suggestions made at every level of this study, without which the thesis would never been completed.

I would also like to thank Mr Leo Jago, Lecturer in the Department of Hospitality and Tourism Management, Victoria University of Technology, for his supporting my fieldwork which was undertaken in Vietnam.

I express my sincere thanks to the following organisations for providing information and contributing to conduct the sample survey in Vietnam:

* Vietnam National Administration of Tourism;
* The State Planning Committee;
* The State Committee for Corporation and Investment;
* V.Y.C Travel Company;
* Vietnam Tourism in Ho Chi Minh City (Hanoi branch);
* Hanoi Golden Lotus Hotel Company;
* Hotels: 35 Trang Tien Street, Hang Dao, Queen, and Thang Loi;
* Ministry of Education and Training Guesthouse;
* 252 Hang Bong Restaurant.

I also wish to acknowledge Mrs Helen Murphy, Lecturer in the Educational Development Unit, Victoria University of Technology, who patiently read through and edited the final draft copy of my thesis.

Last, but not least, I wish to thank my family, specially my wife and my daughter, for much appreciated support and encouragement.

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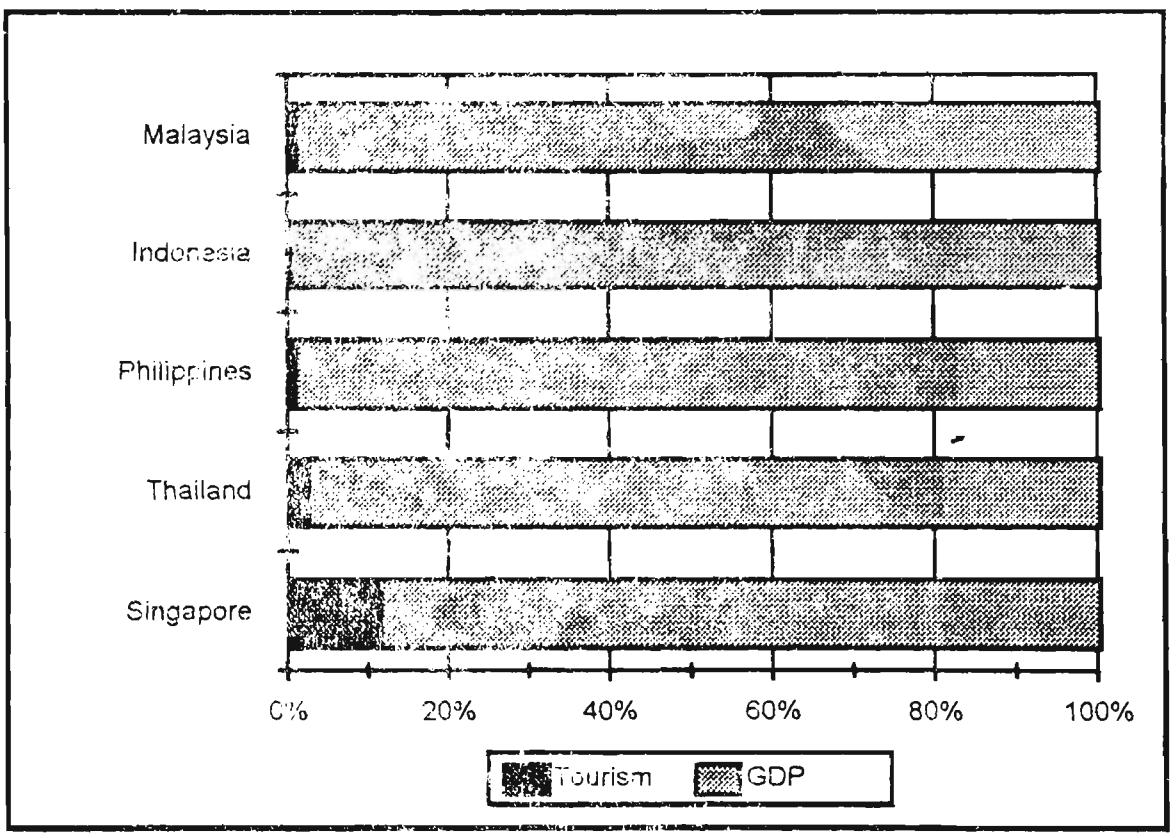
CHAPTER 1

INTRODUCTION

1.1 TOURISM DEVELOPMENT AND VIETNAM'S ECONOMY

With the growth in worldwide travel, many developing countries looked at tourism as a means of economic development. In the South-east Asian region, Singapore, Thailand, Philippines, Indonesia and Malaysia are examples of success in tourism development and the economic significance of tourism as shown in Figure 1.1 and Table 1.1 below.

Figure 1.1: Share of gross tourism revenue in GDP, 1980 (%)



Source: *Adapted from Tucker, Seow and Sundberg (1984).*

Table 1.1: Comparative indicators of the economic impact of tourism, 1980

	Arrivals ('000)	Total Impact as % of:			Expenditure Impact Multiplier
		GDP	Employment	Imports	
Singapore	2,562	3.8	5.5	3.1	0.4
Thailand	1,859	2.2	1.4	1.8	0.9
Philippines	1,008	0.7	0.8	0.4	0.8
Malaysia	895	1.1	0.8	0.4	0.9
Indonesia	561	0.4	0.6	0.3	0.9

Source: *Abstracted from Tucker, Seow and Sundberg (1984).*

Vietnam which is located in this region has pursued a reform of its economy with the 'openness' policy since 1986. Tourism development has been one of the key issues planned, encouraged and organised by the Vietnamese Government because the country has recognised the great potential economic benefit of tourism development. According to the annual reports prepared by the Vietnam National Administration of Tourism (VNAT 1993, 1994 and 1995a) in 1990, the gross tourism revenue was D[1]650 billion, whilst the corresponding figure was D4,000 billion in 1994 and the forecasting figure will be D21,000 billion by the year 2000 (for more details refer to Chapter 3). In 1994, it has been estimated that tourism provided a total of 70,000 jobs of which 44,000 jobs were directly in the tourist sector. According to the Vietnam State Planning Committee, by the year 2000, it is expected that an approximate total of 262,000 positions will be created, of which 180,700 positions will be directly in the tourist industry.

[1]D stands for Dong - the Vietnamese currency unit. In 1994, approximately D10,900 can be exchanged for US$1 (Economist Intelligence Unit 1995).

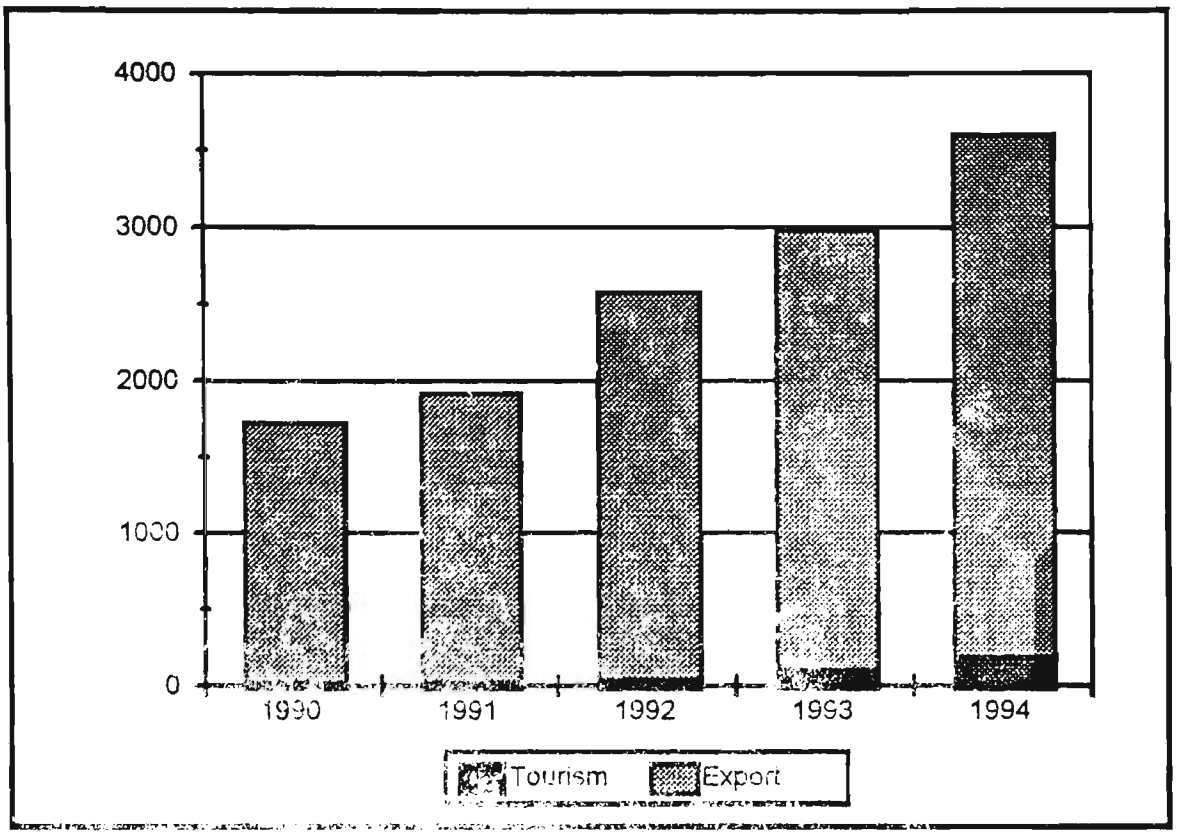
The economic impact of international tourism: Introduction.

Since 1989, the World Tourism Organisation has assisted with a tourism development master plan for Vietnam as a whole. On the basis of this sample plan with some justifications, the official tourism development master plan for the 1995-2010 period was approved by the Vietnamese Government in May 1995 (VNAT 1995b). The plan places a particular emphasis on the development of tourism in the whole country.

A rapid increase in international tourists visiting Vietnam has become an important source of foreign exchange earnings to the country's balance of payment. In 1990, there were 250,000 international arrivals (including Vietnamese who are residing abroad) to Vietnam and the amount of foreign exchange earned was US$ 29 million. The equivalents in 1994 were 1,018,062 arrivals and $210 million (VNAT 1993, 1994 and 1995a)(for more details refer to Chapter 3).

Although the foreign exchange earnings from tourism in Vietnam is not substantial, its share in the country's exports is growing annually at an increasing rate, as shown in Figure 1.2 below.

Figure 1.2: Share of foreign exchange earnings in exports (US$ million)



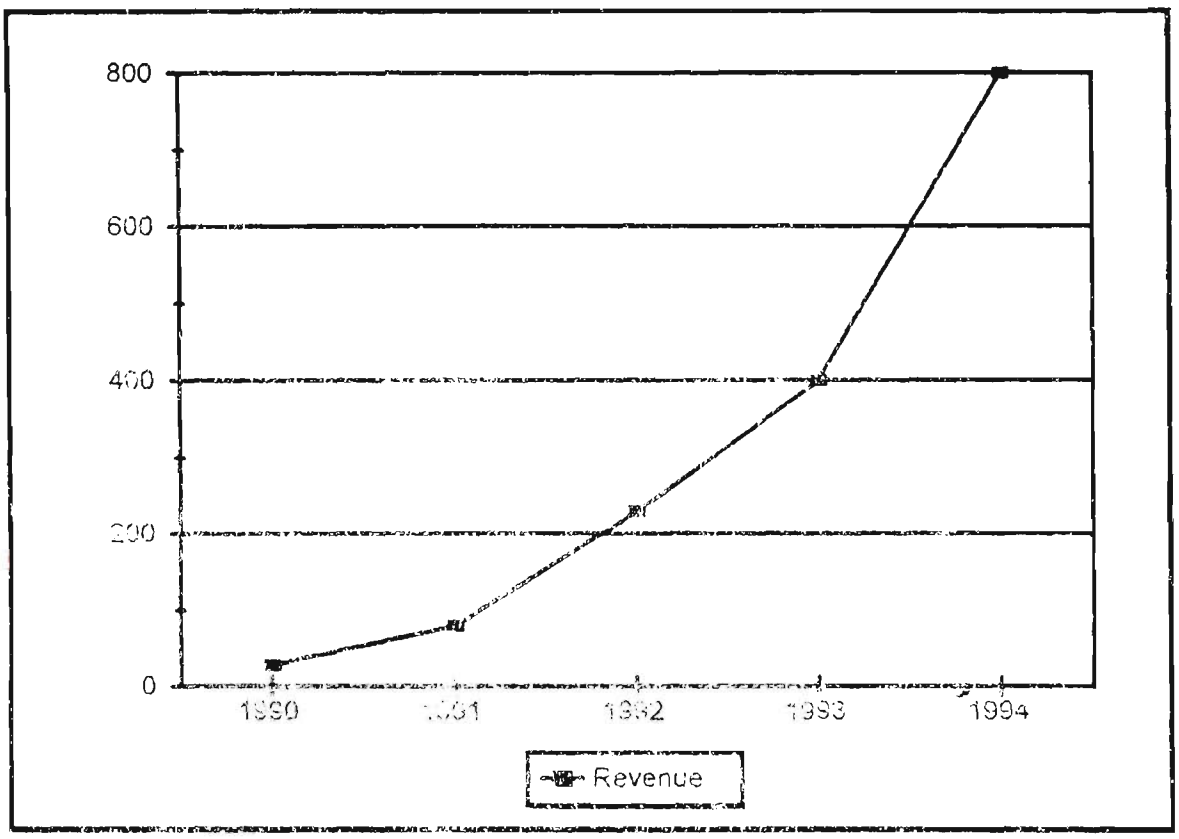
Source: *Vietnam National Administration of Tourism,*
Economist Intelligence Unit (1995),
Asian Development Bank (1993 and 1994).

Moreover, it has been predicted that the direct and indirect benefits arising out of tourism development will constitute a significant proportion of the country's GDP.

Another important aspect of tourism development in Vietnam is that its flow-on effect will stimulate the other sectors of the economy. Those sectors are transportation, telecommunication, some manufacturing industries, trade and services.

Tourism development also contributes to an increase in government revenue by way of direct and indirect taxes. Figure 1.3 shows a dramatic increase in government revenue from tourism over the period of 1990-94 in Vietnam.

Figure 1.3: Government revenue from tourism development (D billion)



Source: *Vietnam National Administration of Tourism.*

1.2 OBJECTIVES OF THE STUDY

While tourism has established itself as a significant sector in Vietnam's economy, there have been no research studies carried out into the economic impact of tourism development in Vietnam. A few research studies have been conducted into various aspects relating to Vietnam's tourism industry. An overview of Vietnam's tourist industry is provided in a report by the Economist Intelligence Unit (EIU 1993). Hobson *et al.* (1994) have carried out a study on foreign investment in Vietnam's tourism industry. Jansen-Verbeke and Go (1995) have examined Vietnam's tourism resources, market potential and the need for government to assume the broad responsibility and policies that should optimise economic benefits whilst preserving the country's social, cultural and ecological features. Existing studies in Vietnam only describe trends and profiles of tourism in Vietnam which utilise current statistics on tourism and related activities.

The general objective of this study is to measure and analyse the impact of tourism development on Vietnam's economy. The study will concentrate on the activities of the tourist industry in 1994 in Vietnam as a whole. The measurement will be done by using the latest input-output tables for Vietnam, which were developed for the year 1989. However, during the five-year period it has been assumed that the input-output structures have been unchanged significantly, therefore, the results of the analysis are expected to be applicable to the current situation. Moreover, if they do change, or if the direction of the changes is known, the economic outcomes of the analysis can be interpreted to indicate current conditions.

The economic impact of international tourism: Introduction.

As it is understood that tourism development has contributed in many different ways towards economic progress, the study is an attempt to assess only some important aspects of its economic impact because of the restriction imposed in the analysis involving the input-output technique.

The study will pay attention to international tourism, particularly foreign tourists visiting Vietnam. It does not take into account either Vietnamese tourists going abroad or domestic tourists in the country. This limitation is based on the need to highlight the contribution of tourism development to the inflow of foreign exchange. Foreign tourists visiting Vietnam have a direct effect on foreign exchange earnings. Furthermore, timing for conducting a sample survey in Vietnam is limited while the thesis is in progress. The availability of data permits the study to be performed only on inbound tourism, whilst not much data are available on outbound and domestic tourism in Vietnam.

Specifically the objectives of the study are to:

* develop highly aggregated input-output tables, namely, the three-sector aggregated input-output table and the eleven-sector aggregated input-output table for Vietnam on the basis of the existing 55-sector input-output tables for the year 1989;

* determine the tourist expenditure patterns by various groups of international visitors (excluding tourists of Vietnamese origin resident overseas) according to country of origin;

* break down the initial tourist expenditure of international tourism into the relevant sectors of the 1989, eleven-sector aggregated input-output table within the Vietnam economy; and to

* identify and provide estimates of the economic significance of international tourism for the year 1994. This impact assessment includes:

i) the economic impact of international tourism on total output;

ii) the economic impact of international tourism on household income; and

iii) the economic impact of international tourism on employment.

This is the first study to approach the economic impact of tourism development, particularly international tourism, on Vietnam, that will help the decision makers, such as the government and planners, to adjust their policies and plans for the development of the economy in general and of the industry in particular. It is anticipated that the study will also help to form a reference framework for further studies on tourism development in Vietnam in future years.

1.3 OUTLINE OF THE THESIS

Chapter Two: Economic Impact of Tourism and Input-Output Analysis

This literature review section focuses on two areas of literature. The first component reviews the potential economic benefits from tourism development. They are:

* the contribution of tourism to the balance of payments;

* the creation of employment opportunities; and

* the generation of additional government revenue.

The second component focuses on the methods of measuring the economic impact of tourism development with a special emphasis on the input-output approach.

Chapter Three: Tourism in Vietnam's Economy

The chapter provides a whole picture of tourism development in Vietnam's economy and in the South-east Asian region as well. Some background information on Vietnam is also briefly presented in order to be partly aware of either the potential or limitations of tourist resources in Vietnam.

Chapter Four: Methodology and Data Collection

This chapter introduces the input-output technique which will be employed in this study by using the 1989, three-sector aggregated input-output table for Vietnam as an example.

The chapter also presents data collection procedures which include the aggregation of the input-output tables, the conducting of a sample survey in Vietnam, software programs used to process primary and secondary data and so forth.

Chapter Five: Assessing the Economic Impact of International Tourism on Vietnam's Economy

This chapter presents the results of developing the 1989, eleven-sector aggregated input-output table for Vietnam which will be employed to assess the economic impact of international

tourism for the year 1994. As well, it will present the results of estimating the tourist expenditure patterns by various groups of foreign visitors according to country of origin.

The main component of this chapter demonstrates the results of estimating and analysing the economic impact of international tourism on total output, household income and employment opportunities within Vietnam's economy for the year 1994. The inter industry linkages in terms of output, household income and employment are examined as well.

Chapter Six: Recommendations and Conclusion

The final chapter of the thesis summarises the main findings of the study and raises issues for further studies.

CHAPTER 2

ECONOMIC IMPACT OF TOURISM AND INPUT-OUTPUT ANALYSIS

2.1 ARGUMENTS FOR AND AGAINST TOURISM DEVELOPMENT IN DEVELOPING COUNTRIES

It is recognised that tourism can have significant impacts on a destination country, particularly on its economy and society. Tourism development has been seen as a development option for many developing countries. However, this alternative is an issue which has been argued by many researchers for years.

The governments of some developing countries are anxious to promote tourism, mainly international tourism, and consequent economic growth. According to Gamage (1995a), the involvement of visitors from industrialised countries in developing countries shows the disparity of wealth between the hosts and the guests and creates higher expectations of the former, particularly among those who associate with the guests closely.

Also, there is a criticism levelled at tourism in developing countries because of tourism sectors' dependence on the Western World which tends to generate a huge leakage of funds such as foreign exchange earnings from the destination countries to the generating countries (Cater 1987; Khan *et al.* 1988; Smith and Jenner 1992).

Tourism is subject to more criticism due to widespread child sex tourism in many developing countries such as Thailand and others in the South-east Asian region where a child is the victim (more details refer to studies by Cohen 1982; Hall 1992).

On the other hand, in developed countries, the demand for outbound travel is growing because of an increase in incomes (Mill and Morrison 1985). These developed countries are the major tourism-generating regions for most developing country destinations. According to Cooper *et al.* (1993), a society's level of economic development is a major determinant of the magnitude of tourism demand because the economy influences so many critical and interrelated factors. One approach is to consider a simple division of world economies into the affluent 'north', where the countries are major generators and recipients of both international and domestic tourism, and the poorer 'south'. In the latter, some countries are becoming generators of international tourism, but mostly tourism is domestic, often supplemented by an inbound international flow of tourists.

Gamage (1978) has stated that developing countries (excluding OPEC - oil producing and exporting countries such as Iraq, Iran, Kuwait and Saudi Arabia) are presently undergoing a social and economic crisis caused by two problems, namely, unemployment and foreign exchange problems. The latter emerges because earnings from traditional export commodities are not adequate to finance required imports. The uncertainty and often inadequate prices for export commodities on the world markets have restricted the development of these countries.

It is not surprising, as Erbes (1973) has suggested, that developing countries look upon the rapid development of international tourism "as mana from heaven" which can provide a solution to all their foreign exchange problems. Developing countries need foreign exchange to develop their own economies and "to satisfy the rising expectations of their populations" (Mill and Morrison 1985: 222).

The contribution of tourism to the GNP of some developing countries in the South-east Asian region is presented in Table 2.1. It can be seen from this table that such a contribution was less than three per cent in all the countries except Singapore (13.03%) in 1980.

Table 2.1: Contribution of tourism to GNP in 1980

	Gross Tourism Revenue (US$m)	GDP (US$m)	Revenue as % of GDP
Singapore	1,431	10,981	13.03
Thailand	867	33,201	2.61
Philippines	320	34,996	0.91
Indonesia	289	69,802	0.41
Malaysia	265	23,348	1.14

Source: *Abstracted from Tucker, Seow and Sundberg (1984).*

In the context of the economies of these countries the contribution from tourism is small. However, tourism has been considered as an option for development, resulting in the achievement of a high rate of growth. The development of the tourist industry has been seen as a potentially effective means to diversify developing economies, earn foreign exchange and to provide employment directly and indirectly. Only very few countries have based their national economies wholly or mainly on tourism. For countries like Spain, Mexico and Ireland, foreign exchange contributions from tourism rank first to their export earnings (Gamage 1978).

Consequently, most developing countries have been encouraging domestic and foreign investment into the tourist sector. In this sphere, a large number of incentives have been given to the investors in order to stimulate investment in tourism. These incentives include tax holidays, duty free imports and long-term lease of land at very low prices. Investment

incentives for tourism development have been conceptualised as financial incentives including reductions in operating costs and reductions in capital costs, and investment security by Bodlender (1982), Jenkins (1982) and Wanhill (1986 and 1994a).

2.2 ECONOMIC IMPACT OF TOURISM DEVELOPMENT

Several research studies (Culpan 1987; Khan *et al.* 1988; Dwyer *et al.* 1990) have indicated that there are significant economic benefits arising out of tourism development for a developing country. These benefits are:

i) contribution to gross national product (GNP) and to the balance of payments;

ii) creation of employment opportunities;

iii) generation of additional government revenue; and

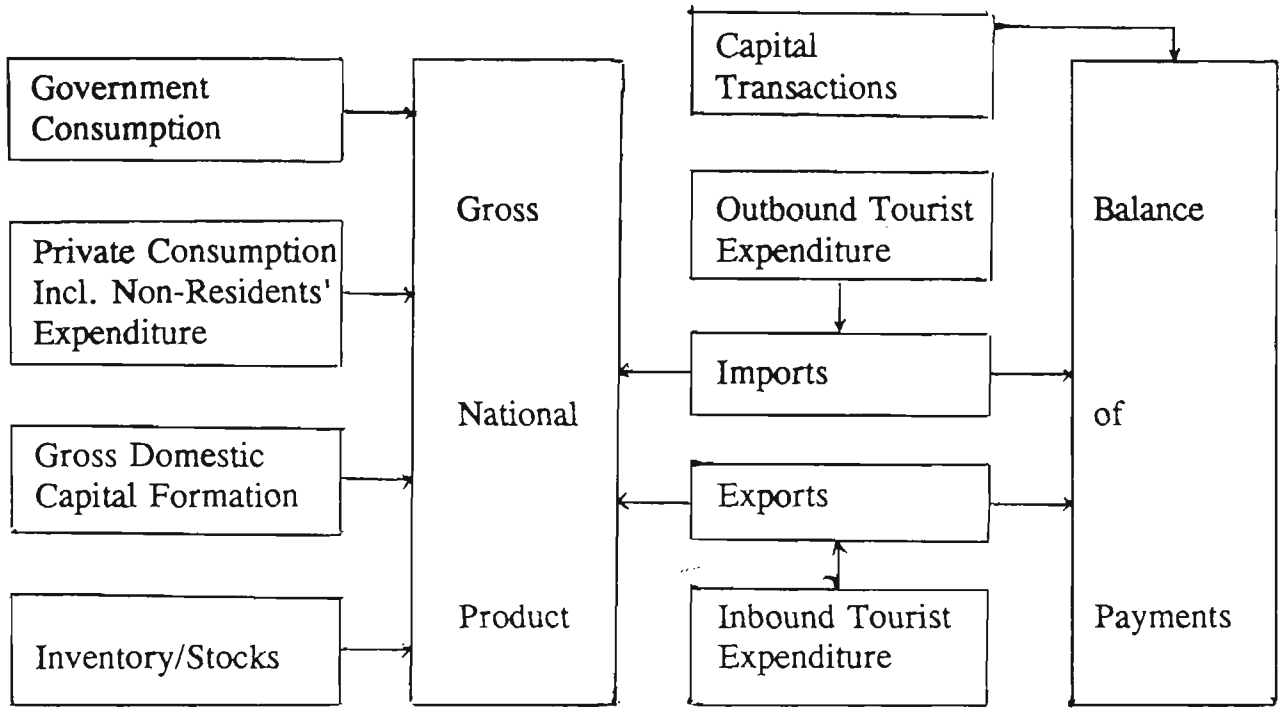
iv) promotion of economic development through various multiplier effects.

The first three economic benefits of tourism development are often examined in any research study which assesses the impact of tourism on a country or a region.

2.2.1 Contribution of tourism to the balance of payments

The contribution of tourist expenditure to GNP of a country is conceptualised by Heng and Low (1990) in Figure 2.1 given below:

Figure 2.1: Tourism expenditure in gross national product



Source: *Heng and Low (1990).*

The effects of tourism on the balance of payments consist of two components which are consistent with two types of tourism, namely, inbound and outbound tourism. However, balance of payments statistics do not clearly indicate the impact of international tourism on the economy of a destination country. Thus, according to Heng and Low (1990: 248) some authors try to extend the coverage to include "all readily identifiable international tourist expenditures such as investment patterns, money spent on transport and the training of foreign staff" on the travel account of the balance. Another idea of constructing an external balance of tourism has been proposed in a study by Mikic (1988). This study indicates that the balance of tourism may be compiled separately and parallel to the overall balance of payment, in order to identify the contribution of tourism to the economy and to make international comparisons impossible. On this basis, the study has found that "Yugoslavia is dependent on

tourism in financing its trade deficit and improving its external liquidity" (Mikic 1988: 316).

Witt (1987) has studied the economic impact of tourism on Wales. He has found that tourism plays an important role in the economy of Wales because the share of international tourist receipts in GDP is "on a par with Spain and Greece".

In the case of Greece, during the period 1960-82, the Greek tourist index of growth was always higher than the merchandise export index. When the expenditure of Greek citizens travelling abroad was deducted from foreign tourist receipts, "the net effect on the Greek balance of payments remained favourable". Therefore, the Greek tourist industry has been seen as "an export industry with even higher potential of foreign exchange earnings, requiring relatively little assistance from the Greek State" (Papadopoulos and Mirza 1985: 131-133).

For the least developed countries, although tourism development brings benefits in earning foreign exchange, this may be offset by leakages. Because of the limitation in resources, many of the requisite materials and products for tourism are imported. A study by Cater has found that "in the case of Gambia, it is estimated that only 10 percent of gross earnings are retained, in Tanzania 40 percent" (Cater 1987: 220).

Khan and his colleagues have paid attention to several leakages when determining net foreign exchange earnings in order to assess tourism's impact on the balance of payments of developing countries. The leakages include "the import cost of goods and services (final and intermediate products) consumed by the visitors, the import cost of capital goods necessary

to develop tourist facilities and construct recreational resorts, remittances by the overseas investors in the tourist industry, and the expenditure for promotional services abroad" (Khan *et al.* 1988: 133). The extent of these leakages depends on the pattern of tourist demand structure of ownership, and regulatory mechanisms in the tourist industry (Cleverdon 1979).

2.2.2 Employment opportunities

Tourism is a relatively labour-intensive industry because it can provide either directly or indirectly jobs for local people. Direct employment positions are occupations created within the tourist industry such as in hotels, restaurants, airlines and tour operations. Indirect employment positions are generated by the need of their services to support the industry such as retail sales, road construction, agriculture and manufacturing activities. A study by Pavaskar (1982) concentrates on the employment effects of tourism and the determination of the employment potential and manpower requirement of foreign and domestic tourism in India. This study also presents an overview of a theoretical exposition on the employment effects of tourism.

According to Archer (1973: 6), "Research carried out in the USA has shown that in some areas up to a quarter of the local wage bill is created by tourist spending, and that tourist expenditure generates more work in retail and service firms than could be provided by an equivalent amount of general expenditure". Research in Scotland also suggests that spending by tourists wholly or partly supported an estimated 63,000 jobs in 1980 (Duffield and Long 1984). However, such jobs created are not all of the same type; they are distributed in directly

related-tourist enterprises, for example, working proprietors and seasonal workers.

Ruiz analyses the impact of tourism on the employment of a small island - Puerto Rico. The results show that in 1980, "tourism generated 48,920 jobs. Of this total, 24% were in commerce, 16% in hotels, 18% in amusement and recreation, and 7.0% in manufacturing. In the economy as a whole, 142 jobs were created for every $1.0 million of tourist expenditure." (Ruiz 1985: 64). This means that one job could be created by approximately $7,000 in Puerto Rico, while Australian research suggests that a sum of approximately AU$ 13,000 of direct tourism expenditure leads to the creation of one job in travel and tourism (Cooper and Pigram 1984).

2.2.3 Government revenue

Tourism contributes to government revenue through direct taxes imposed on tourists such as airport taxes or levies on hotel tariffs, and indirect taxes charged on various goods and services consumed by the tourists.

Sathiendrakumar and Tisdell (1989) have found that tourism is the second source of government revenue in the Maldives. The Maldives government received US$1.3 million in 1980 from this source including "tourism tax bednight, airport tax and import duties on items consumed by the tourist" (Sathiendrakumar and Tisdell 1989: 264). However, the government undertakes expenditures for the benefit of the tourist industry and this must be taken into account to determine net receipts (Tisdell 1984). This expenditure is much less

than its revenue receipts from tourism. In the case of the Maldives, in 1984, the government revenue earned from tourism was about US$7.1 million, whereas government expenditure on tourism was estimated to be US$228,571 (Sathiendrakumar and Tisdell 1989). Therefore, the net receipts are a subtraction of government expenditure from government revenue as mentioned above.

Government expenditure, however, is used for promotional activities and, also, infrastructure development is used by the local residents. Therefore, it is difficult to determine the net receipts through tourism-related projects (Khan *et al.* 1988).

2.3 METHODS OF MEASURING THE ECONOMIC IMPACT OF TOURISM DEVELOPMENT

Tourism's economic impact is a complex issue because tourism activities relate to many other industrial sectors in the economy. Some researchers (Kottke 1988; Fletcher 1989) have introduced a variety of methods which can be employed to measure the economic impact of tourism.

The first method (namely the inventory/budget method) is simply to summarise the total value produced and the total resources used by a firm, the industry, or proposed projects (Kottke 1988), or to compare the available data on tourism activity such as tourism receipts, employment and salaries, and profits "with the key economic indicators such as gross national product, national employment, etc." (Fletcher 1989: 515).

Secondly, researchers can employ the cost-benefit analysis technique. This technique is applied primarily to the evaluation of development proposals (Kottke 1988). However, this method requires that "a number of explicit and implicit assumptions ... be made during the process of model construction" (Fletcher 1989: 515).

The third approach is the use of the two most popular forms of multiplier models - *ad hoc* models and input-output model, "the former representing a partial approach whereas the latter is a general equilibrium approach" (Fletcher 1994: 478). The *ad hoc* multiplier model is particularly appropriate with regional analysis "where it may be impractical or too expensive to undertake a full input-output analysis, due to the paucity of secondary data" (Fletcher 1994: 478). The construction of this model "eliminates some of the subjectivity inherent in cost-benefit analysis, but retains an element of subjectivity as the model builder selects the transactions that are considered to be relevant to the analysis" (Fletcher 1989: 515).

According to Fletcher (1989), the input-output analysis has a number of advantages. It:

- provides a comprehensive view of the economy;
- focuses attention upon the sectoral interdependencies which exist in the economy;
- is flexible to construct a model to suit the purpose in hand;
- is policy-neutral;
- enables the researcher to study the impact of tourism at its three levels: direct, indirect and induced effect; and it
- is associated with the improvement in the level and quality of data available for the economy in general and for the national accounts in particular.

On the other hand, there are some disadvantages in using this method (Fletcher 1989).

- It is a relatively expensive tool of analysis in terms of both time and financial/manpower resources;
- Intersectoral transaction data is usually not available, so much of the data must be collected by surveys; and
- A number of restrictive assumptions concerning the production process of the various industrial sectors and the assumption function of the household sector must be made.

The study by Kottke (1988) has pointed out three other drawbacks of this method.

- It deals with an aggregate of a whole industry rather than with a set of firms;
- Results are not easily translated into applied recommendations; and
- The feasibility of using the method at a municipality level is questionable.

Also, West (1993: 491) has argued that the conventional input-output model has two drawbacks. "First, the model takes into account only the producer-producer relationship and ignores, to a large extent, the presence of institutions in the operation of the economy... Second, the input-output model is static and linear." So, he has extended the conventional input-output table to include transfer payments. The new model is known as a Social Accounting Matrix, commonly referred to as an 'Integrated Model'. It can, therefore, be argued that the Integrated Model gives more refined multiplier values compared to that of the conventional model.

2.4 A REVIEW OF RESEARCH STUDIES ON THE INPUT-OUTPUT APPROACH

2.4.1 Overview

The use of the input-output technique in assessing tourism's economic impact has been popular. One of the earliest tourism input-output studies was carried out by Harmston (1969) in Southern Wyoming. A very good summary of research works on tourism using the input-output technique and a review of the-state-of-the-art in tourism multipliers are made by Archer (1977, 1982), and Fletcher and Archer (1991). Various issues relating to multipliers are presented in these authors' research such as a brief history and the nature of multipliers, the concept of tourism multipliers, types of multiplier, some multiplier models, and weaknesses and limitations of multipliers and so forth.

Fletcher (1989, 1994) has demonstrated the usefulness of input-output analysis to study the economic impact of tourism. The practical application of this method of analysis is examined in a series of his studies as well. The latest research by this author and his colleagues is to assess the economic impact of tourism on the Old Town of Edinburgh in Scotland by using a "mini input-output" model (Parlett *et al.* 1995).

A study by Morison and Powell (1988) has focused on the application of the input-output method to tourism analysis and the interpretation of the results in two fundamentally different ways, namely, the tourist industry approach and the final demand approach. Under the former, an individual tourist sector is created by aggregating the tourism components of

tourist-related sectors and then making adjustments to the input-output tables. Under the latter, "no tourist sector is constructed, but each component of tourist expenditure is multiplied by that sector's multiplier" (Morison and Powell 1988: 263).

Briassoulis' study (1991) has identified the methodological issues in tourism input-output studies and provided a systematic classification and discussion of the old and new issues which are grouped into four categories: substantive issues, aggregation, structural change and prediction, and intangible impacts.

2.4.2 The application of the input-output method

The input-output approach is employed widely in assessing the economic impact of tourism generally and in relation to the particular type of tourists in a region or a nation. Many research studies have been conducted into different aspects of this method to address different purposes.

The most popular application of the input-output model is that it is employed to measure the economic impact of tourism on a nation, a state, a region and even a town. Table 2.2 shows research studies which use the model to assess the economic impact of tourism on different sizes of locations.

Table 2.2: Studies of the economic impact of tourism on different locations

Location	Examples	Authors
Nation	- Kenya - Hong Kong - Singapore	Summary (1987) Lin and Sung (1984) Khan *et al.* (1988, 1990, 1995)
Small island economies	- Bermuda, West Samoa, Barbados etc.	Archer (1989)
State	- Massachusetts of the U.S. - Queensland of Australia - 50 states and District of Colombia (USA)	Cournoyer and Kindahl (1983) West (1993) Mak (1989)
Region	- Metropolitan Victoria (Canada) - Okanagan region (Canada) - South Carolina-a coastal area of the United States	Liu and Var (1983) Var and Quayson (1985) Pomeroy *et al.* (1988)
Town	- The Old Town of Edinburgh (Scotland)	Pariett *et al.* (1995)

In addition, Hurley *et al.* (1994) have also employed the input-output model to assess the impact of the European Community grants for tourism on the Republic of Ireland's economy.

Another aspect of the application is that the method is utilised to assess the economic impact of more specific activities which attract tourists on the host economy of a region as shown in Table 2.3.

Table 2.3: Studies of the economic impact of more specific activities which attract - tourists on the host economy of a region

Activity	Name and Region	Authors
Auditorium activities	The Mobile Municipal Auditorium upon Alabama (USA)	Chang (1981)
Outdoor recreation	The Texas Gulf Coast (USA)	Fesenmaier *et al.* (1989)
Special sporting events	The 1989 Bells Beach Easter Surf Carnival and the 1989 Ford Australian Open to the state of Victoria (Australia)	Downey (1991)
Special exhibition	The 1980 Greater Michigan Boat and Fishing Show (USA)	Gartner and Holecek (1983)
Opera festival	The 1992 Ballarat Opera Festival (Victoria, Australia)	Bray (1995)

A further aspect of the application is to measure the economic impact of differential types of visitors contributing to the regional or national economy. King and Gamage (1994) use the input-output technique to assess the impact of a particular target market on a particular destination, namely, expatriate Sri Lankan residents in Australia, travelling back to their country of birth temporarily.

2.4.3 Differential tourism multipliers

More recent studies of differential tourism multipliers have extended the application of the input-output technique in assessing tourism's economic impact in particular regions or countries. Liu *et al.* (1984) have calculated differential tourist-income multipliers for Turkey, using conventional input-output methodology and standard linear equations. "These multipliers provide the basis for determining the relative impacts of the various types of

tourist by their differences in spending patterns and the income-generating propensities of the tourist-related business" (Liu *et al.* 1984: 280).

Another study by Milne (1987) is a modified version of Archer's tourism multiplier model which derives differential multipliers at both the sectoral and firm scale for the Cook Islands tourist industry and ancillary sectors. Liu (1986) has calculated differential multipliers for visitors by island visited, type of travel arrangement, visitor frequency, accommodation type, country of origin and overtime in assessing the "quality" of visitors to Hawaii by their relative contributions to the economy.

Meanwhile, Aislabie and Gordon (1988) have paid attention to the methodology of differential tourism input-output multipliers, particularly in relation to regional and small area studies. They have produced an excellent overview of the literature of differential tourism input-output multipliers as well.

More practical studies on this matter have been done by Gamage (1991, 1995b). Attention is paid to differential multipliers for Queensland (Australia) for various types of visitors, in order to assess in more detail the specific economic impacts of tourism in this state (Gamage 1991). In a similar way, the latest study by Gamage (1995b) concentrates on the significance of different types of tourists including intrastate, interstate, international tourists and day trippers to the state of Victoria by calculating differential multipliers for those types of tourists in order to assess their relative contribution to the economy.

Moreover, there are some studies which just focus on one aspect of tourism multipliers and the input-output analysis. Liu and Var (1982) have examined differential multipliers for the accommodation sector only. Wanhill has looked at the measurement of linkages (1983), capacity restrictions (1988) and tourism income multipliers relating to personal taxation and social insurance contributions (1994b). Kottke (1988) has used linear programming. Cooper and Pigram (1984) have utilised multiplier analysis to rank the importance of tourism against other sectors of the Australian economy. Archer has discussed the policy implications of multipliers (1982) and their use for marketing purposes (1985). Wanhill (1993) has shown how multipliers can assist in the evaluation of European Development Fund project grants.

However, the use of tourism multipliers is cautioned against in several other studies. Hughes (1982) has argued that "tourism multipliers would appear to perform averagely well in comparison with other regional multipliers. They are not consistently superior and do not warrant the special status accorded to them" (Hughes 1982: 172). Archer (1984) has distinguished between the 'normal' multiplier and the 'ratio' multiplier, and has claimed that the former has more validity than the latter. Also, Hughes (1994) has argued that there is confusion over the different approaches to multiplier analysis in regard to the data used, the attribution of tourist expenditure within a multiplier calculation and the obscuring of the real relationship between impact studies and mathematical precision.

CHAPTER 3

TOURISM IN VIETNAM'S ECONOMY

3.1 BACKGROUND ON VIETNAM

3.1.1 Location and geography[2]

Vietnam is located in South-east Asia and surrounded by both the Indian Ocean and the South China Sea (See Appendix 1). It stretches from the southern border of the People's Republic of China to the southern tip of the Indo-Chinese Peninsular and is bordered to the west by Laos and Cambodia. The country is long and narrow, vaguely tracing the shape of the letter S. The distance from the northernmost point to the southernmost point is about 1,650 km; the width of the country (east to west) at the broadest section is 600 km; but at the narrowest (in Thuathien - Hue) it is only about 50 km. The area of the country is 331,700 sq. km, with a diversified topography of mountains, rainforests, plains and midlands. Vietnam has 3,260 km of coastline and land borders of 1,650 km with Laos, 1,150 km with China and 950 km with Cambodia.

The country may be described as an agricultural country with two main cultivated areas - the Red River Delta (15,000 sq. km) in the North and the Mekong Delta (60,000 sq. km) in the South.

Three-quarters of the country consists of mountains and hills, the highest of which is the 3,143 metre-high Fansipan in the Hoanglien Mountains in the far north-west of northern Vietnam. The Truongson Mountains which form the Central Highlands run almost the full

[2]Source: *Vietnam - A Travel Survival Kit*, 2nd ed., 1993.

length of the country, along Vietnam's borders with Laos and Cambodia.

Vietnam has some offshore islands in the Gulf of Thailand and the South China Sea, including Phuquoc Island off the Cambodian coast, the Thochu Islands south-west of Phuquoc, the Condao Islands south-east of the Mekong Delta, the Paracel Islands (Quan Dao Hoangsa) 300 km east of Danang and the Spratly Islands (Quan Dao Truongsa) 475 km south-east of Nhatrang.

3.1.2 Climate

Vietnam is largely a tropical country with the typical features of warm weather, high humidity and abundant seasonal rainfall. The diversified topography is clearly visible in the climatic difference which exists between the two parts of the country - the North and the South. In the North, a hot rainy season prevails during the summer monsoon from May to September. The average temperature in Hanoi is about 30°C during this period. A cool season prevails from December to March, the average temperature being less than 20°C. The average rainfall is 1,500 mm a year in the plains and more than 2,000 mm in the mountainous regions.

The South has a monsoon climate with a mean temperature of 27°C in Ho Chi Minh city. The cooler season extends from December to February, while the rainy season extends from about May to November, with the hottest and most humid weather in July and August. The average annual rainfall is about 2,000 mm.

The central coastal region has a different weather pattern from north to south, with the bulk of the rain occurring from October to March.

Because of these climatic differences, the tourist seasons in Vietnam commonly extend from October to December and May to June in the North, from May to August and January to April in the Centre, and from May to December in the South (EIU 1993).

3.1.3 History

Being at the crossroads of the two major civilisations of the world, namely, China and India, Vietnam's cultural heritage is understandably rich. It is recorded that the Vietnamese had already cast bronze some three thousand years ago. There is a legend about the origins of the Vietnamese people. Recent archaeological findings suggest that the earliest human habitation of northern Vietnam goes back about five thousand years, and the national history is dated back four thousand years to the Hung Kings.

Chronologically, Vietnamese history can be outlined as follows:

* BC 2879 - 111: Prehistoric period.
* BC 111 - 938 AD: Chinese domination.
* 938 - 1858: Independent era with different king dynasties.
* 1858 - 1945: French domination.
* 1945 - 1954: Independent nation and French War.

* 1954 - 1975: Geneva Agreement on Vietnam's independence but with a temporary division into parts, the North and the South.
* 1975 - present day: Liberation of the whole country and establishment of the Socialist Republic of Vietnam.

3.1.4 Population

In 1994, Vietnam's population reached 72.5 million, making it one of the most populous countries in the world. Approximately 84% of the population is ethnic-Vietnamese (or Kinh), 2% ethnic-Chinese and the remainder Khmers, Chams and sixty other ethno-linguistic groups (Robinson and Storey 1993). With traditions, languages and cultures that differ greatly, the ethnic minorities are spread over the high plateau and mountainous regions.

The overall population density in Vietnam is 200 persons per sq. km, one of the world's highest for an agricultural country. The current rate of population growth is 2.5% per year. It is anticipated to reach 90 million by the year 2000. Overall life expectancy is 66 years and infant mortality is 46 per 1,000.

The explosion of population is the burden of the economy, so a family planning program has been conducted by the Government for many years.

3.1.5 The economy

The Soviet-style central planning model had been enforced in Vietnam's economy in the North since 1954, and had been imposed on the South since 1976. Because of the evident failure of this model, the Vietnamese leaders have pursued a new economic policy of 'openness' (*doi moi*) that was formally adopted at the Sixth Party Congress in 1986. This policy involved reforming the centrally planned economy through the removal of restrictions on the private sector, the introduction of a foreign investment law, the devaluation of the official exchange rate, the restructuring of the banking system, and a shift to a socialist market economy.

The state-run economy, the collective economy, the state-private joint economy, the private economy and the individual economy are currently existing side-by-side in Vietnam. The Vietnamese government has recognised all economic sectors as being equal and has enacted many policies and guidelines to encourage their participation in strengthening the economy.

The government has adopted policies and issued directives aimed at encouraging the country's business establishment to seek a wide range of improvements in product quality, productivity and output. Meanwhile, businesses are being asked to assume greater independence, without subsidies from the government. Whether large-scale or small-scale, whether privately owned or state-owned, all industries are given equal importance.

In shifting the economy to a market-oriented structure from a centrally planned bureaucratic

one, the Vietnamese Government has given the right to producers and businesses either to organise their own activities, or to cooperate with foreign organisations and individuals, regardless of political and social systems. The net effects of this are that foreign investors have engaged in a wide range of economic cooperation and business activities in Vietnam since 1986.

As it stands today, Vietnam is still basically an agricultural economy where close to 80% of the population still lives in the rural areas and is supported by farming, forestry and fishing culture. Vietnam exported rice for the first time in 1989, following several decades of food deficiencies.

Vietnam is experiencing rapid economic growth which is exceeding 8% annually as its economy becomes more efficient. Annual gross domestic product (GDP) is approximately US$ 17 billion, which is equivalent to US$ 220 per capita income (EIU 1994)

Vietnam's economy has recorded some impressive results in recent years as shown in Table 3.1 below.

Table 3.1: Some major economic indicators in Vietnam.

	1990	1991	1992	1993	1994[a]
GDP at current prices (D trillion)	41.7	76.7	110.5	136.6	177.0
Real GDP growth[b] (%)	5.1	6.0	8.7	8.1	8.8
Retail price inflation (%)	67.5	67.4	17.6	5.2	14.4
Population (million)	66.2	67.8	69.3	70.9	72.5
Exports (US$ million)	1,728	1,921	2,581	2,988	3,600
Imports (US$ million)	2,055	2,063	2,541	3,878	5,000
Current account (US$ million)	-610	-200	-36	-758	-1,600
Exchange rate (D:$)	5,200	9,390	11,181	10,641	10,900

Source: *Economist Intelligence Unit (1995),*
[a]*EIU and official estimates,*
[b]*Constant 1989 prices.*

3.2 TOURISM IN VIETNAM'S ECONOMY

3.2.1 The development of tourism in Vietnam

According to the Economist Intelligence Unit's International Tourism Report, Vietnam has attracted tourists from Europe since the 19th century, particularly during the French colonial period. However, it did not participate in the growth of tourism within the Asian Pacific region through the 1960s and 1970s (EIU 1993). Moreover, Vietnam was cut off from the flow of tourism from the non-communist world after the reunification of the country in 1975 (Hobson *et al.* 1994).

The first Vietnam Tourism Company was established in 1960, which was then under the control of the Ministry of Trade. After reunification, the Vietnam National Administration of Tourism was set up in 1978 to manage 14 tourist companies and 30 provincial and rural

companies. Since 1986, Vietnam has recently entered a new stage of development towards a free economy. The Vietnamese Government is placing a particular emphasis on those sectors which are likely to generate foreign exchange earnings in the short term such as oil and gas industry, agriculture, transportation and tourism. As a result, Vietnam's tourism industry has officially developed in recent years, as shown in Table 3.2 and Table 3.3 below.

Table 3.2: Tourist arrivals in Vietnam, 1986-94

	International Tourism	Domestic Tourism	Outbound Tourism
1986	54,343	280,000	na
1987	73,283	400,000	na
1988	110,390	480,000	na
1989	187,573	540,000	na
1990	250,000	1,000,000	7,000
1991	300,000	1,500,000	10,000
1992	440,000	2,000,000	15,000
1993	670,000	2,500,000	na
1994	1,018,000	3,500,000	na

Source: *Vietnam National Administration of Tourism.*

Table 3.3: Tourism receipts in Vietnam, 1990-94

	Gross Tourism Revenue (D billion)	Foreign Exchange Earnings (US$ million)	Domestic Tourist Receipts[a] (D billion)
1990	650	29	na
1991	800	35	na
1992	1,350	50	934
1993	2,500	120	1,300
1994	4,000	210	1,700

Source: *Vietnam National Administration of Tourism,*
[a]*State Planning Committee.*

It can be seen from the above tables that there has been a rapid increase in the numbers of

visitors, including inbound, outbound and domestic tourism since 1986. The average annual growth rate of international visitors was 47.2% for the period of 1986-90 and 42.8% during 1990-94. For the overall period of 1986-94, this rate was 45%.

Similarly, the average annual growth rate of domestic tourists was 40.2% for the period of 1986-90 and 37% during 1990-94. Overall, for the period 1986-94, this rate was 38%. The corresponding figure for outbound visitors was 46.4% for the period of 1990-93.

Tourism revenue has dramatically increased since 1990. It was approximately six times higher in 1994 than it was in 1990 in Vietnamese currency. The annual average growth rate of gross tourism revenue was approximately 59% during 1990-94. Foreign exchange earned from international tourism is increasing at a growing rate. In 1990, US$ 29 million were receipted from international tourism and the equivalent figure was US$ 210 million in 1994 which was seven times higher than 1990. The annual average growth rate of foreign exchange earnings was approximately 70% for the period of 1990-94. The corresponding figure for domestic tourist receipts in Vietnamese currency was 35% during 1992-94 only.

The development of tourism in Vietnam is also reflected in the increase of its contribution to GDP and its share in exports as shown in Table 3.4 below.

Table 3.4: Contribution of tourism to GDP and exports, 1990-94

	1990	1991	1992	1993	1994
Gross tourism revenue (D billion)	650	800	1,350	2,500	4,000
GDP (D billion)	41,700	76,700	110,500	136,600	177,000
Contribution (%)	1.6	1.0	1.2	1.8	2.3
Foreign exchange earnings ($ m)	29	35	50	120	210
Exports ($ m)	1,728	1,921	2,581	2,988	3,600
Share (%)	1.7	1.8	1.9	4.0	5.8

Source: *Economist Intelligence Unit (1995),*
Vietnam National Administration of Tourism, and
Estimates by the author.

The above table shows that although the contribution to GDP and the share in exports are small, these have steadily increased during 1990-94. Particularly, in the two years 1993 and 1994, the shares of foreign exchange earnings in exports increased dramatically (4.0% and 5.8%), compared with the corresponding figure in 1992 (1.9%).

3.2.2 International tourism in Vietnam

Vietnam used to be a member of the socialist-countries bloc - COMECON. Consequently, most of its tourism flow was from and to these countries. Therefore, before 1989 international tourists visiting Vietnam were divided into three categories by region of origin:

- COMECON's visitors mainly come from the Eastern European countries (the former Socialist Bloc) such as Russia, Hungary, East Germany, Czechoslovakia, etc. for holiday purposes.

- International (excluding COMECON) visitors who come from the rest of the world, in recent years come mainly from Japan, Hong Kong, Taiwan, Korea, Australia and so forth for business purposes because of the 'openness' policy of Vietnam.

- Tourists of Vietnamese origin resident overseas, *Viet kieu*, who go back to visit their relatives and friends in Vietnam.

Table 3.5: International visitor arrivals to Vietnam by origin, 1986-89

	1986	1987	1988	1989	Increase 1986-89 (%)
COMECON's	6,300	6,600	16,028	31,723	71.4
International	4,581	7,581	17,865	40,966	107.6
Vietnamese overseas[a]	43,472	59,182	76,497	114,844	38.2
Total	**54,353**	**73,363**	**110,390**	**187,533**	**51.1**

Source: *Economist Intelligence Unit (1993),*
[a]*Estimates.*

The above table demonstrates that during 1986-89 most of the recorded international tourist arrivals consisted of tourists of Vietnamese origin resident overseas (*Viet kieu*). In 1986 they accounted for 43,472 of the recorded total 54,353 (nearly 80%) and in 1989 for 114,844 (about 60%) of the total of 187,533. However, the fastest annual growth rate of international visitor arrivals over that period was accounted for by tourists of non-Vietnamese origin, excluding those from COMECON countries.

The economic impact of international tourism: Tourism in Vietnam's Economy.

In recent years, inbound tourism has continued to expand its target markets to non-communist countries as shown in Table 3.6 below.

Table 3.6: International visitor arrivals to Vietnam by country of origin, 1992-94

	1992		1993		1994	
	Arrivals	%	Arrivals	%	Arrivals	%
1. By air	440,000	100.0	601,527	89.8	940,707	92.4
* Foreign Visitors	359,142	81.6	448,855	67.0	738,661	72.6
- Taiwan	70,143	15.9	95,077	14.2	184,241	18.1
- France	19,204	4.4	47,683	7.1	96,697	9.5
- Japan	19,119	4.3	29,683	4.4	65,055	6.4
- USA	14,563	3.3	23,361	3.5	42,438	4.2
- UK	6,662	1.5	17,276	2.6	36,863	3.6
- Thailand	10,557	2.4	13,869	2.1	23,581	2.3
- Hong Kong	13,985	3.2	15,224	2.3	23,186	2.2
- Others	204,909	46.6	206,682	30.8	266,600	26.3
* Vietnamese Overseas	80,858	18.4	152,672	22.8	202,046	19.8
- in the USA	2,910	0.7	78,024	11.6	109,738	10.8
- in Australia	3,520	0.8	19,904	3.0	28,529	2.8
- in Canada	4,200	0.9	11,144	1.7	16,627	1.6
- in France	3,840	0.9	12,052	1.8	14,900	1.5
- in Others	66,388	15.1	31,548	4.7	32,196	3.1
2. By road	na	-	33,335	5.0	41,231	4.1
3. By sea	na	-	35,000	5.2	36,124	3.5
Total	**440,000**	**100.0**	**669,862**	**100.0**	**1,018,062**	**100.0**

Source: *Vietnam National Administration of Tourism.*

As shown in the above table, international visitor arrivals to Vietnam in 1994 increased nearly 52% compared with those in 1993. The volume of international visitor arrivals in 1994 reached more than one million, which is double the number of arrivals in 1992. The major sources of visitors by country of origin were Taiwan, France, Japan and the USA in ranked order. The main change to take place within the past few years is that arrivals from Asian sources have surpassed the number of visitors from COMECON countries.

Viet kieu (Vietnamese overseas) also constitutes a substantial proportion of international visitor arrivals. Their motives for travelling are mainly to visit their friends and relatives (VFR) and partly a mixture of VFR and holiday, or investigation of investment opportunities. Ho Chi Minh city (formerly Saigon) is the major destination. Of the approximate 152,000 US residents visiting Vietnam in 1994, more than two-thirds were Vietnamese expatriates (109,738 visitors). The average length of stay of the *Viet kieu* is normally longer than the foreign tourists and they tend to bring large amounts of foreign exchange. There are approximately two million overseas Vietnamese located in some 80 different countries. Most are located in the West, particularly the USA, France, Canada and Australia, although the neighbouring countries of Cambodia, Laos, Thailand and China are also home to many of them (EIU 1993).

However, the majority of international tourists have been still dominated by foreign visitors, non-Vietnamese expatriates. This category of visitors made up 72.6% of the total visitor arrivals in 1994, while the Vietnamese expatriate category accounted for 19.8% (Table 3.6). International visitors came to Vietnam almost exclusively by air (92.4%) versus by land (4.1%) and by sea (3.5%) (Table 3.6).

According to Vietnam's Institute for Tourism Development Research, in 1994 each international tourist stayed an average of 6.4 days in Vietnam and spent an average of US$ 75 per day of which 65% was for accommodation and meals, 10% for domestic transport, 15% for souvenirs and 10% for other services.

The main purposes of international visitors travelling to Vietnam are presented in Table 3.7 below.

Table 3.7: International visitor arrivals by purpose of visit in 1994

	Arrivals	Arrivals (%)	Purpose (%)
1. Foreign Visitors	738,661	78.5	100.0
- Holiday	447,848	47.6	60.6
- Business	243,814	25.9	33.0
- Others	46,999	5.0	6.4
2. Vietnamese Overseas	202,046	21.5	100.0
- Holiday & VFR	194,809	20.7	96.4
- Business	4,382	0.5	2.2
- Others	2,855	0.3	1.4
Total	**940,707**	**100.0**	

Source: *Vietnam National Administration of Tourism.*

It can be seen from the above table that foreign visitors' motives for travelling are mainly for holiday purposes (60.6%). Another 33% of them have travelled to Vietnam for business purposes. Meanwhile, the majority of Vietnamese expatriates (96.4%) mainly travelled back to Vietnam to visit their friends and relatives, mixing this with a holiday. Only 2.2% of them travelled back to do business in Vietnam.

3.2.3 Regional contribution to the tourist industry in Vietnam

According to the tourism development master plan (VNTA 1995b), Vietnam has been divided into three main tourist zones/regions: the North, the Northern Centre, and the Southern Centre & the South (see Appendix 2).

* Zone 1, the North, consists of 23 provinces including three main tourist centres - Hanoi (the capital), Haiphong (the first port) and Quangning (Halong bay - one of the World's Cultural Heritages in Vietnam).

* Zone 2, the Northern Centre, consists of 5 provinces with two major tourist centres - Hue (formerly empirical capital - another one of the World's Cultural Heritages in Vietnam) and Danang (the second port).

* Zone 3, the Southern Centre & the South, consists of 25 provinces and is subdivided into two subzones:

- Subzone 3.1, the Southern Centre, consists of 9 provinces including two main tourist attractions - Nhatrang (the finest beaches) and Dalat (the fantastic highlands);

- Subzone 3.2, the South, consists of 16 provinces with two main tourist destinations - Ho Chi Minh city (formerly Saigon) and Vungtau (the well-known beaches).

The contribution of each zone/region to the tourism industry as a whole in Vietnam is presented in Table 3.8, 3.9, and 3.10 as follows:

Table 3.8: Share of each zone/region in tourism receipts, 1992-94

	1992		1993		1994	
		%		%		%
1. Gross tourism revenue (Db)	1,350	100.0	2,500	100.0	4,000	100.0
- Zone 1	359	26.6	697.5	27.9	1,172	29.3
- Zone 2	35	2.6	81.5	3.3	234	5.9
- Zone 3	956	70.8	1,721	68.8	2,594	64.8
2. Foreign exchange earnings ($m)	50	100.0	120	100.0	210	100.0
- Zone 1	9	18.0	28.3	23.6	65	31.0
- Zone 2	1.3	2.6	5.5	4.6	15	7.1
- Zone 3	39.7	79.4	86.2	71.8	130	61.9
3. Domestic tourism receipts (Db)	934	100.0	1,300	100.0	1,700	100.0
- Zone 1	307.4	32.9	439	33.7	460	27.1
- Zone 2	24.4	2.6	28	2.2	70	4.1
- Zone 3	602.2	64.5	833	64.1	1,170	68.8

Source: *State Planning Committee,*
Vietnam National Administration of Tourism.

The above table indicates that Zone 3 has been the most important tourist region contributing more than two-thirds to the tourism receipts (including gross revenue, foreign exchange and domestic receipts) of the industry, as a whole, over the period from 1992 to 1994. However, the share of Zone 1 and Zone 2 in tourism receipts has increased over the same period.

Table 3.9: Share of each zone/region in international visitor arrivals, 1992-94

	1992		1993		1994	
		%		%		%
1. Total arrivals ('000)	440		670		1,018	
Total arrivals by region ('000)[3]	771.4	100.0	1,180	100.0	1,710	100.0
- Zone 1	295	38.2	400	34.0	560	32.8
- Zone 2	51.4	6.7	100	8.5	180	10.5
- Zone 3	425	55.1	680	57.5	970	56.7
2. Average length of stay (days)	3.00		3.32		3.27	
- Zone 1	1.74		1.98		2.10	
- Zone 2	1.30		1.20		1.25	
- Zone 3	1.74		1.93		1.98	
3. Total length of stay ('000 days)	1,320	100.0	2,224.4	100.0	3,325	100.0
- Zone 1	512.7	38.8	792	35.6	1,176	35.4
- Zone 2	66.8	5.1	120	5.4	225	6.8
- Zone 3	740.5	56.1	1,312.4	59.0	1,924	57.8

Source: *State Planning Committee,*
Vietnam National Administration of Tourism.

Again, Zone 3 has been a leading tourist region in terms of number of international visitor arrivals and their length of stay for the 1992-94 period. More than 50% of international visitor arrivals and their length of stay have been accounted for Zone 3 in recent years.

[3]Overlapped total number because one visitor could visit more than one zone/region during his/her visit in Vietnam.

Table 3.10: Share of each zone/region in domestic tourists, 1992-94

	1992		1993		1994	
		%		%		%
1. Total number of tourists ('000)	2,000		2,500		3,500	
Total tourists by region ('000)[4]	3,168.7	100.0	3,526.6	100.0	4,000	100.0
- Zone 1	620	19.6	738	20.9	885	22.1
- Zone 2	193.7	6.1	208.6	5.9	226	5.7
- Zone 3	2,355	74.3	2,580	73.2	2,889	72.2
2. Average length of stay (days)	2.20		2.48		2.17	
- Zone 1	1.40		1.80		2.25	
- Zone 2	1.12		1.30		1.35	
- Zone 3	1.47		1.78		1.83	
3. Total length of stay ('000)	4,400	100.0	6,200	100.0	7,600	100.0
- Zone 1	868	19.7	1,329	21.4	1,995	26.3
- Zone 2	217	5.0	271	4.4	305	4.0
- Zone 3	3,315	75.3	4,600	74.2	5,300	69.7

Source: *State Planning Committee,*
Vietnam National Administration of Tourism.

This table, once again, illustrates the domination of Zone 3 in domestic tourism in Vietnam's tourist industry. The total number of domestic tourists and their length of stay in Zone 3 have always occupied two-thirds of the whole industry since 1992.

[4]See footnote 3.

3.2.4 Foreign investment in tourism in Vietnam

Foreign interest in the investment of tourism and hotel projects has been keen since 1988. The hotel and tourism sector is currently one of the top three sectors attracting foreign investment (the other two are the industry and oil & gas sectors). By August 1994, the hotel and tourism sector had brought in US$ 2,000 million of investment, representing 20.2% of total foreign investment (see Table 3.11 below).

Table 3.11: Approved projects by economic sector[5]

	Projects (No.)	Capital (US$ m)	%
Agriculture & forestry	82	460	4.6
Fisheries	47	227	2.3
Oil & gas	27	1,400	14.1
Industry	515	3,700	37.4
Communications	23	636	6.4
Hotel & tourism	120	2,000	20.2
Services	145	783	7.9
Banking & finance	16	177	1.8
Export processing zones	20	349	3.5
Others	31	168	1.7
Total	**1,026**	**9,900**	**100.0**

Source: *State Committee for Cooperation and Investment.*

[5]As of August 1994.

The major source of foreign investment in Vietnam by August 1994 was Hong Kong, representing a total investment capital of US$ 1,750 million. Also, Hong Kong companies have been the leading investors in hotel construction with a total investment of 208.555 million by the end of 1992 (Table 3.12). Taiwan, France, Australia and Japan have been other major sources in this sector with a range of investing capital from 32.898 million (Japan) to 102.2 million (Taiwan) involved by the end of 1992 (see Table 3.12 below).

Table 3.12: Leading investors by country

	Overall[6]		In hotel construction[7]	
	Projects (No.)	Capital ($ million)	Projects (No.)	Capital ($'000)
Hong Kong	204	1,750	24	208,555
Taiwan	152	1,710	2	102,200
South Korea	85	782	1	980
Australia	45	760	2	41,000
France	63	729	6	82,400
Singapore	69	578	1	3,500
Malaysia	29	559	na	na
Japan	66	530	3	32,898
UK	17	402	1	400
Netherlands	13	380	na	na

Source: [6]*State Committee for Cooperation and Investment,*
[7]*Vietnamese Ministry of Trade and Tourism.*

[6]As of August 1994.

[7]By end of 1992.

The investment projects in the hotel and tourism sector presented in the table below were approved and controlled by the Vietnam National Administration of Tourism in 1991.

Table 3.13: Investment projects in Vietnam's tourism by region[8]

Projects	Location	Capacity (rooms)	Capital (US$ million)
Hanoi Tourist Centre	Hanoi	1,500	200
HCM City Tourist Centre	Ho Chi Minh City	6,500	1,500
Haiphong Tourist Centre	Haiphong	500	23.4
Tour. Centre of Halong	Quangning, Haiphong	250	10
Vinh Tourist Centre	Hatinh	320	16
Hue Tourism Centre	Thuathien - Hue	500	na
Danang Tourism Centre	Quangnam - Danang	720	24
Nhatrang Tourist Centre	Khanhhoa	500	29
Dalat Tourist Centre	Lamdong	300	34

Source: *Youth Advertising House & Annboli Company (1992).*

The above table shows that Ho Chi Minh city and Hanoi are the two key locations attracting foreign investment in the hotel and tourism industry.

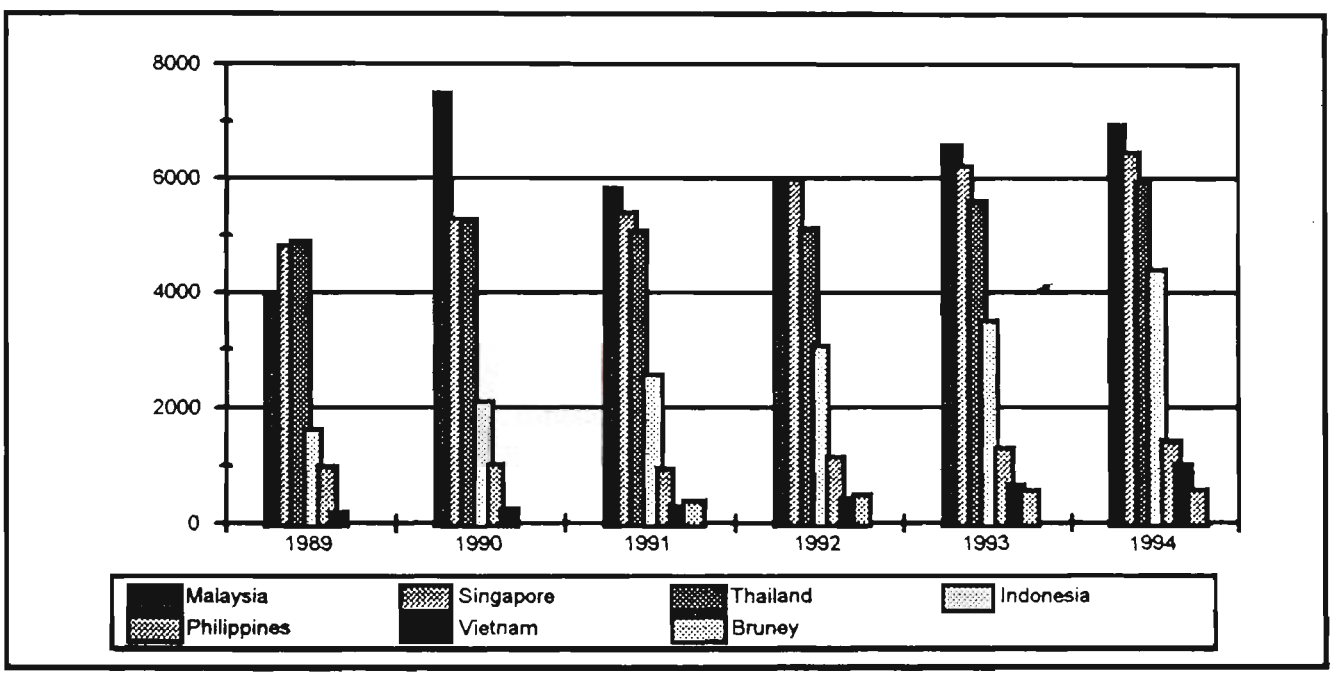
[8]As at 19 August 1991.

3.2.5 The development of Vietnam's tourism in the South-east Asian region

Vietnam did not participate in the growth of tourism within the Asia Pacific region, particularly within the South-east Asian region, through the 1960s and 1970s, but tourism has grown rapidly since foreign visitors were welcomed into the country again from 1986 (EIU 1993). The growth of inbound tourism in Vietnam in comparison to other South-east Asian countries since 1989 is shown in Figure 3.1 below (for more details refer to Appendix 3).

Figure 3.1: Growth of inbound tourism in South-east Asian countries, 1989-94

(thousand arrivals)



Source: *Far Eastern Economic Review (1991-94),*
Singapore Hotel Association (Spark Magazine).

The economic impact of international tourism: Tourism in Vietnam's Economy.

Inbound tourism in Vietnam has rapidly increased in recent years. However, its share in the tourist-growing South-east Asian region and the Pacific region still remains a small proportion as shown in Table 3.14 as follows.

Table 3.14: Share of Vietnam's international tourism in South-east Asia and in South-east Asia & Pacific

	1990	1991	1992	1993	1994
Inter. visitor arrivals in South-east Asia and Pacific[a] ('000)	51,121	51,121	58,310	62,275	66,510
Inter. visitor arrivals in South-east Asia[b] ('000)	21,480	20,569	22,299	24,487	26,841
Inter. visitor arrivals in Vietnam[c] ('000)	250	300	440	670	1,018
Share of Vietnam in South-east Asia & Pacific[d] (%)	0.5	0.6	0.75	1.1	1.5
Share of Vietnam in South-east Asia[d] (%)	1.2	1.5	2.0	2.7	3.8

Source: [a]*WTO and PATA,*
[b]*Far Eastern Economic Review and Singapore Hotel Association,*
[c]*Vietnam National Administration of Tourism,*
[d]*Estimates by the author.*

In terms of the annual growth rate of inbound tourism, Vietnam is a country in the South-east Asian region which has gained the fastest average annual growth rate of inbound tourism for the period 1990-94 as shown in Table 3.15 (for more details refer to Appendix 3).

Table 3.15: Average annual growth rate of inbound tourism, 1990-94

	1990 ('000 arrivals)	1994 ('000 arrivals)	Average annual growth rate (%)
Malaysia	7,500	6,964	+17.3
Singapore	5,310	6,480	+6.2
Thailand	5,300	5,950	+4.1
Indonesia	2,100	4,402	+22.1
Philippines	1,020	1,442	+8.0
Vietnam	250	1,018	+41.0
Brunei	399[9]	585	+14.0
South-east Asia	**21,480**	**26,841**	**+15.2**

Source: *Far Eastern Economic Review (1991-94),*
Singapore Hotel Association (Spark Magazine).

Conclusion

Vietnam's new economic policy of 'openness' (*doi moi*) has been advantageous for tourism development since 1986. It has been recognised that the numbers of both international and domestic tourists have rapidly increased in Vietnam in recent years. Consequently, the contribution of the industry, particularly international tourism to the country's GDP and foreign exchange earnings, has been remarkable. Vietnam is emerging as a new and untouched destination in the South-east Asian region. The boom of tourism can bring both positive and negative impacts to Vietnam's economy and society. Thus, it is necessary to assess those impacts, of which the economic impact of international tourism is specifically focused on in this study.

[9]The number of international visitor arrivals to Brunei was not available for 1990; instead, the 1991 figure was used. Therefore, the average annual growth rate of inbound tourism for this country was counted for the period of 1992-94.

CHAPTER 4

METHODOLOGY AND DATA COLLECTION

4.1 METHODOLOGY

To measure and analyse the economic impact of international tourism in Vietnam, this study makes use of the input-output technique developed by Nobel Prize winner Wassily Leontief in the United States. The model has two major limitations, namely static and linearity assumptions (Gamage 1994). However, the suitability of the technique for economic impact analysis was emphasised by Lynn *et al.* (1991) as follows: Firstly, the input-output method quantifies the total effects on a nation or a region of some changes in final demand. Tourist expenditures, through which tourism impacts on the economy, can be treated as changes in final demand with international tourism subsumed within the export component and domestic tourism within the consumption component of final demand. Secondly, the model recognises the interdependent nature of production and allows for a disaggregated analysis of the effects of tourism development, by indicating how the demand for output from each sector in the economy will be changed because of tourism.

The main tool for this analysis is the tourism input-output table which is specially developed from the 1989, 55-Sector Input-Output Tables for Vietnam (General Statistical Office 1992a) (see Appendix 4). These tables group the *n* industrial sectors in an economy into primary and intermediate sectors, linked to each other in terms of their purchases and sales to each other and to a final demand sector (Khan *et al.* 1990).

The generation of regional input-output multipliers, GRIMP[10] technique developed by the Department of Economics, University of Queensland, which allows for disaggregation of sectors, is employed to estimate the economic impact of tourism (Jensen and West 1986). The GRIMP technique is applied in measuring the differential effects of tourist expenditures by eight groups of international tourists visiting Vietnam.

The method of specifying tourist expenditures in a form suitable for input-output analysis required elaboration and sectoral breakdown of those tourist expenditures for the eight groups of international tourists was estimated on the basis of the data collected by conducting a survey.

This chapter provides a brief introduction to the input-output technique by reference to a highly-aggregated three-sector transactions table for the Vietnam economy as an example, a process of collecting primary data , and an adjustment of utilising secondary data gathered in Vietnam.

4.1.1 Input-output analysis

According to Leontief (1986), input-output analysis is "a method of systematically quantifying the mutual interrelationships among the various sectors of a complex economic system" (p.

[10]GRIMP stands for **GR**IT **IM**pact **P**rogram where GRIT is an acronym for 'Generation of Regional Input-Output Tables', a procedure developed by Dr. R. C. Jensen and his research team at the University of Queensland for constructing hybrid or partial survey regional input-output tables (West 1986).

19). Practically, it can be applied to a nation or even the entire world economy, or in small areas such as the economy of a region, a sector, or even a single enterprise. The core of this analysis is the input-output transactions tables which will now be briefly described.

4.1.1.1 The input-output transactions table

An input-output transactions table represents an economy which has been divided into the *n* industrial or commodity sectors (Gamage 1994) and describes the flow of goods and services between them (Leontief 1986); in other words, "a table summarising the origin of all the various inputs and the destination of all the various outputs of all industries in an economy is called an input-output table" (Yan 1969: 5).

The table describes the value of transactions in currency terms rather than in physical units between these sectors for a stated period of time, say, a year. Through normal trading transactions, sectors sell goods and services to other sectors and to the final demand sector, and purchase their inputs from other sectors and sources of primary inputs (Gamage 1994). This is why the input-output table is often referred to as the transactions table. A highly-aggregated three-sector transactions table for the Vietnam economy in 1989 is shown in Table 4.1. Each row indicates the flow of sales from one sector to another and to final demand. In Table 4.1, Sector 1 sells D2,933,924 million of its output (of D14,535,079 million) to firms in the same sector, D1,186,555 million to firms in Sector 2, D149,739 million to firms in Sector 3, D8,210,096 million to household consumers as final users and D2,054,954 million to other final demand sources. The columns show the purchasing patterns of the

sectors. For example, Sector 2 purchases D1,186,555 million from firms in Sector 1, D6,586,535 million from firms in the same sector, D795,349 million from firms in Sector 3, D3,082,698 million from primary inputs in the form of household labour (via wages, salaries, etc.) and D11,263,450 million in the form of other primary inputs including imports.

Table 4.1: Highly-aggregated 3-sector transactions table for Vietnam, 1989 (D million)

Sector	Intermediate Sectors			Household Consumption	Other Final Demand	Total Output
	1	2	3			
		(Quadrant I)			*(Quadrant II)*	
1	2 933 924	1 186 555	149 739	8 210 096	2 054 954	14 535 268
2	1 819 768	6 586 535	2 531 912	6 193 332	5 782 935	22 914 484
3	232 774	795 349	1 124 915	6 313 938	3 286 373	11 753 349
		(Quadrant III)			*(Quadrant IV)*	
Household income	7 319 270	3 082 698	4 033 961	0	0	4 435 929
Other primary	2 229 343	11 263 450	3 912 866	1 436 881	596 197	19 438736
Total Input	14 535 079	22 914 588	11 753 393	22 154 248	11 720 459	83 077 768
		(Quadrant V)				
Employment[11]	20 894 300	3 682 700	4 362 700			

Source: *Aggregated from the 55 sector transactions table for Vietnam 1989 by using GRIMP.*

Notes: Sector 1: Agriculture
Sector 2: Manufacturing
Sector 3: Trade, Transport and Services

Usually, an input-output table can be subdivided into four quadrants (Quadrants I to IV) (United Nations Industrial Development Organisation (UNIDO) 1985; Fletcher and Archer 1991; Fletcher 1993, 1994; Gamage 1994).

[11]Estimated on the basis of data sourced from General Statistical Office (1992b, 1994); State Planning Committee & General Statistical Office (1994) and Chamber of Commerce and Industry of Vietnam (1994).

. ***Quadrant I*** shows the intermediate transactions, that is, the flow of goods and services between the industrial sectors defined for the study, which are both produced and consumed in the process of current production. Therefore, this quadrant is also termed the 'intermediate' or the 'processing' quadrant and provides the analytical core of the input-output technique.

. ***Quadrant II*** indicates sales of goods and services by each sector to the final users. This quadrant in most input-output tables traditionally includes columns relating to the major types of use such as consumption by household, consumption by government, gross domestic fixed capital information, net additions to stock and exports. Each of these sectors is highly aggregated in comparison to the sectors of production.

. ***Quadrant III*** contains, corresponding to the final demand columns, rows showing the primary inputs into each industry. These inputs are usually described as primary because they are not part of the outputs of current production, that is, they are not purchases from local industrial sectors. Primary inputs into current production represent mainly value-added in each sector of production as well as imports. Normally, they can be divided into the following categories: depreciation, wages and salaries (the household row in Table 4.1), net indirect taxes, gross operating surplus, imports and other value-added items. Therefore, the columns in this quadrant demonstrate the purchases of each of these factors by the productive sectors listed in Quadrant I.

. ***Quadrant IV*** shows the direct inputs of primary factors to final use. For example, goods which are imported for re-export would be entered in the import row of the export column in quadrant IV. The fourth quadrant is normally of less importance in most input-output tables and is often ignored in analytical terms, or is sometimes omitted from published input-output tables. This quadrant contains, however, in input-output tables "with direct allocation of imports, the basic value of imported goods consumed by householders; this is often a relatively significant entry in input-output models of small or rural economies" (Gamage 1994: 8).

According to Fletcher (1993), the input-output tables can include the fifth quadrant. ***Quadrant V*** shows the number of employees in each of the industrial sectors. In its most simple form, the tables may contain a single row showing the total number employed in each industrial sector (Employment row in Table 4.1). However, more sophisticated tables can provide for an employment quadrant "which distinguishes between employees according to their sex, skill levels, nationality and whether they are part-time, full-time or seasonal in nature" (Fletcher 1993: 81).

The number of sectors shown in a particular input-output table is determined mainly by the availability of data and the objectives of the study. All of these sectors in the table can be classified as endogenous sectors included within the intermediate quadrant and exogenous sectors included in other quadrants. The main difference between the two types of sectors is that the former are "assumed to be influenced by the internal structure of the economy", whilst the latter are "assumed to be governed by external influences" (Gamage 1994: 9).

Therefore, government's expenditures, capital formation and exports are usually treated as exogenous, whilst household consumption expenditures are treated as exogenous in the 'open' table, but as endogenous in the 'closed' or induced-consumption table.

Depending on the utilisation of the 'open' or 'closed' input-output models, the household sector is treated in different ways. Gamage (1994) has argued that "in open input-output models household personal consumption is located in the final demand portion of the table, and its accompanying row comprising wages, salaries and other household income is included with primary inputs. Alternatively, the input-output table may be closed with respect to households by inserting the household row and column into the endogenous matrix" (p. 9).

The input-output transactions tables provide a concise, descriptive picture of a nation's or a region's economy in a given year. It is similar to a set of national accounts which may be defined "as a system for registration of transactions, or flows, in goods and services, financial claims and assets and transfers, which are generated by distinct transformation processes... Each transformation process is represented by a separate account in which incoming and outgoing flows are registered" (UNIDO 1985: 1). The similarity between the national accounts system and the input-output transactions table for an economy is that "the final demand components are considered to indicate the equivalent of what GNP or GRP (Gross Regional Product) measures on the expenditure side, and primary inputs are the same as the receipts side" (Gamage 1994: 9). However, these are two distinct systems describing the same economy. "One major difference between national accounts and input-output tables is that where the former tends to concentrate upon the various aspects of final demand, the

input-output table focuses attention on the flow of transactions between the different productive sectors which make up the economy" (Fletcher 1993: 80). Another difference is the types of uses to which each of them have been applied. Input-output tables are created and developed mainly for use in a special type of economic analysis, say, input-output analysis, whilst national accounts are developed as a consistent bookkeeping scheme, containing data which could be used for any type of economic analysis or planning (UNIDO 1985).

4.1.1.2 The mathematical structure of the input-output table

For the input-output analysis, a Leontief inverse matrix must be computed from the input-output table. The inverse matrix is derived from quadrant I of the transaction table. The input-output model is constructed in order to derive output, income and employment multipliers for each sector in the economy. A simple mathematical structure can be applied to illustrate this procedure.

The transactions table may be represented by a series of equations thus:

$$X_1 = X_{11} + X_{12} + \ldots + X_{1n} + Y_1$$

$$X_2 = X_{21} + X_{22} + \ldots + X_{2n} + Y_2$$

$$\ldots$$

$$X_n = X_{n1} + X_{n2} + \ldots + X_{nn} + Y_n$$

In an algebraic form it may be described as:

$$X_i = \sum_{i=1}^{n} X_{ij} + Y_i$$

where

X_i = total output of the *i* th sector (row total)

X_{ij} = output of sector *i* purchases by sector *j* (or sales of sector *i* to sector *j*)

Y_i = total final demand for the output of sector *i*.

The input-output table is an extremely useful tool for gaining insight into the structure of the economy, but it is not an operational model. In order to convert the input-output table into an operational model, it is necessary to modify Quadrant I and III of the transaction table by dividing the cells of the columns by the corresponding column totals to derive coefficients which represent more clearly the purchasing pattern of each sector. In this way each column consists of cells which now show the proportion of inputs purchased from each of the other industrial sectors (intermediate goods and services) and primary inputs. The columns will now all total 1. "These coefficients, variously termed 'direct' or 'input-output coefficients' or less appropriately 'technical coefficients' are normal noted as the a_{ij} and represent the direct or first round requirement from the output of each sector following an increase in output of any sector" (Gamage 1994: 10).

In equation terms the table becomes:

$$X_1 = a_{11}X_1 + a_{12}X_2 + \ldots + a_{1n}X_n + Y_1$$

$$X_2 = a_{21}X_1 + a_{22}X_2 + \ldots + a_{2n}X_n + Y_2$$

...

$$X_n = a_{n1}X_1 + a_{n2}X_2 + \ldots + a_{nn}X_n + Y_n$$

In an algebraic form it may be described as:

$$X_i = \sum_{i=1}^{n} a_{ij}X_i + Y_i$$

where

$a_{ij} = X_{ij}/X_j$

When a_{ij} is the input-output coefficient, it may be represented in matrix terms:

$$X = AX + Y \qquad (1)$$

where

$A = | a_{ij} |$, the matrix of input-output coefficients.

The A matrix of direct coefficients for Vietnam is an example in Table 4.2.

Table 4.2: Direct coefficients matrix for Vietnam, 1989

Sector	1	2	3
1	0.2019	0.0518	0.0127
2	0.1252	0.2874	0.2154
3	0.0160	0.0347	0.0957
Total Intermediate	0.3431	0.3739	0.3239
Household Income	0.5036	0.1345	0.3432
Other Primary Inputs	0.1534	0.4915	0.3329
Total	**1.0000**	**1.0000**	**1.0000**

Source: *Calculated from Table 4.1 by using GRIMP.*

Having constructed the coefficients table from Quadrants I and III, it is necessary to transform it again into what is referred to as the Leontief inverse, or the inverted technology matrix. This is a table which shows the *direct plus indirect effect* of a change in any category

of final demand. The Leontief inversion is only applied to Quadrant I and III.

Using simple matrix algebra:

Let

I = the identity matrix (equivalent to 1 in simple algebra)

A = a n x n matrix of technical coefficients

X = a n x 1 vector of gross output

Y = a n x 1 vector of final demand

then, equation (1) can be extended to:

$(I - A)X = Y$

where $(I - A)$ = the Leontief matrix.

This presentation still shows Y as the dependent variable. In order to express the model with output (X) as the dependent variable, it is necessary to transfer $(I - A)$ to the right hand side, then the equation can be written as:

$X = (I - A)^{-1} Y$

where $(I - A)^{-1}$ = the Leontief inverse matrix, or is termed the "general solution" (or simply, the inversed matrix of the open model).

Now let $\triangle$ represent a change in a variable and the equation can demonstrate the full effect (direct plus indirect) of a change in final demand (Y) on output (X):

$$\triangle X = (I - A)^{-1} \triangle Y \qquad (2)$$

Equation (2) can be interpreted as follows: the change in final output ($\triangle X$) will be equal to the Leontief inverse matrix $(I - A)^{-1}$ multiplied by the change in final demand ($\triangle Y$) (Fletcher and Snee 1989).

The general solution, the Leontief 's input-output technique, is represented by (Gamage 1994):

$$Z = (I - A)^{-1} = (Z_{ij})$$

where Z = multiplier

In other words (Gamage and Wise 1993: 54):

$$(I - A)^{-1} = I + A + A^2 + A^3 + A^4 + \ldots + A^n$$

This provides the researcher with the foundation of the input-output model. If the inverse matrix is then multiplied by a matrix, or column vector of changes in tourist expenditure, the model will estimate the direct and indirect impact of these tourist expenditure changes on output, income and employment throughout the entire economy. "If the household income and consumption row and column are included in the inverted matrix, then the results will estimate the direct plus indirect plus induced impact of these changes in tourist spending" (Fletcher 1993: 82).

The open inverse for Vietnam is given in Table 4.3.

Table 4.3: Open inverse matrix for Vietnam, 1989

Sector	1	2	3
1	1.2685	0.0941	0.0403
2	0.2324	1.4371	0.3456
3	0.0314	0.0568	1.1198
Total	**1.5323**	**1.5880**	**1.5057**

Source: *Calculated from Table 4.1 by using GRIMP.*

Gamage (1994) indicated that "the input-output table can be 'closed' with respect to certain elements of the table. Closure involves the transfer of an item from the exogenous portions of the table (Quadrant II, III and IV) to the endogenous section of the table (Quadrant I); closure implies that the analyst considers that the transferred item is related more to the level of local economic activity than to external influences" (p. 12). Closure of input-output tables with respect to households is common; an illustration for Vietnam is Table 4.4 below.

Table 4.4: Closed inverse matrix for Vietnam 1989 with respect to household

Sector	1	2	3	H-Hold
1	1.9013	0.3360	0.4596	0.9295
2	0.9630	1.7164	0.8298	1.0732
3	0.4633	0.2219	1.4060	0.6345
H-Hold	**1.2460**	**0.4763**	**0.8257**	**1.8302**

Source: *Computed from Table 4.1 by using GRIMP.*

4.1.2 Input-output multipliers

4.1.2.1 The structure of input-output multipliers

According to Fletcher and Archer (1991) and Fletcher (1994), the concept of the multiplier

is recognised on the basis that the various industrial sectors of the economy are interdependent. "This means that, in addition to purchasing primary inputs such as labour, import, etc., each sector will purchase intermediate goods and services produced by other establishments within the local economy" (Fletcher and Archer 1991: 28). Therefore, any change in the level of tourist expenditure, in the case of this study, will not only affect the sector which produces that good or service, but also that sector's suppliers and the suppliers' suppliers, and so on.

Briefly, "a multiplier is essentially a measurement of response to an economic stimulus" (Gamage 1994: 13). Any change in the level of tourist expenditure will bring about a change in the host economy's level of output, income and employment which are the major concerns of the tourism impact being examined in this study. The multiplier allows the estimation of the initial, first-round, industrial support and consumption-induced effects of any given change in tourist expenditure, say, a one dollar increase, according to a study by Gamage (1994) which is outlined below.

The Initial Impact: This is termed 'the direct effect'. The initial impact of a change in tourist expenditure is the effect upon those sectors which directly receive the tourist spendings. This impact refers to the assumed dollar increase in final demand; it is the stimulus or the cause of the impacts. Associated directly with this dollar increase in output, is an own-sector increase in household income in wages, salaries etc. used in the production of that dollar of output. Associated also will be an own sector increase in employment represented by the size of the sector employment coefficient.

First-Round Effect: The effect occurs as a result of the need of an industrial sector to make additional purchases from other industries, within the host economy. This impact also refers to the effect of the first round of purchases by the sector providing the additional dollar of output. Clearly, in the case of the output multiplier, this is shown in the elements of the direct coefficients matrix (Table 4.2). The disaggregated effects are given by one individual a_{ij}, whilst the total first-round effects are given by the sum of all a_{ij}'s ($\sum a_{ij}$).

Industrial Support Effects: This term is applied here to 'second and subsequent round' effects, as successive waves of output increases occur in the economy to provide industrial support as a response to the original dollar increase in sales to final demand. The term excludes any increases caused by increased household consumption. The first-round and industrial support effects are, together, termed the production-induced effect, or indirect effect.

Consumption-Induced Effects: The consumption-induced effects are defined in a manner similar to that used in conventional input-output multipliers, namely, as that induced by increased household income associated with the original dollar stimulus in output.

The four effects come into operation following changes in final demand (in a certain sector of the economy) and by contributing to further stimulus elsewhere in the economy, give rise to an increase in the size of the economy which is greater than the initial increase in final demand. These processes are reflected by the value of the output multiplier which can be obtained through the inverse of the matrix $(I - A)^{-1}$.

4.1.2.2 Types of tourism multipliers

Each of the tourism multipliers is assigned different values depending on its categorisation. The output multipliers are calculated on a 'per unit of initial effect' basis, that is, output responses to a dollar change in output. Income multipliers refer to changes in income per dollar initial change in output. Income multipliers are converted to a 'per unit' measurement by the calculation of Type I and II multipliers (Jensen and West, 1986). Gamage (1994) demonstrated this in the subsequent formulae:

$$\text{Type I Income Multiplier} = \frac{\text{Initial + Production-Induced Effects (IP)}}{\text{Initial Effects}}$$

$$\text{Type II Income Multiplier} = \frac{\text{Initial + Production-Induced + Consumption-Induced Effects (IPC)}}{\text{Initial Effects}}$$

However, Types I and II multipliers are severely limited in their use to policy makers. A much more useful approach is to relate the change in key variables (income, employment and so forth) to the change in tourist expenditure that is brought about. There are a variety of tourism multipliers, however, a particular attention is paid to three major categories - the output, income and employment multipliers.

The output multiplier: The output multiplier is the ratio of direct, indirect and induced changes in total productive output, throughout the host economy, to the initial change in the level of tourist expenditure (Fletcher and Snee 1989; Fletcher 1994).

The income multiplier: This demonstrates the direct, indirect and induced additions to-the domestic income generated by the additional tourist expenditure. The tourist income multiplier is regarded as the most important indicator. It measures the increase in income (wages, salaries and profits and so forth) which occurs throughout the economy as a result of a change in either the level or distribution of tourist expenditure.

The employment multiplier: The employment multiplier is similar to the above multipliers, but shows the change in the number of full-time equivalent job opportunities (FTEs) associated with a change in either the level or distribution of tourist expenditure throughout the economy. It may be expressed in terms of either the number of FTEs generated by a unit of tourist expenditure, or as a ratio of total employment generated to the direct employment created by the change in tourist expenditure.

4.2 DATA COLLECTION AND ASSUMPTIONS

4.2.1 The input-output tables for Vietnam

In order to describe the process of production, the generation and distribution of income, the formation of capital and so forth inside the economy as a whole, Vietnam used to employ the Material Product System (MPS) as in former socialist countries. This system pays attention to describing the nation's production and service activities that contribute directly to material production. Most other services such as passenger transport, banking, housing, education, cultural activities and so forth are excluded by the MPS.

Recently, Vietnam has changed to the System of National Accounts (SNA) which reflects any activity relating to the production of goods and services which have taken place in the nation's economy. With the assistance of the United Nations Development Program, a project titled "The Implementation of the United Nations' System of National Accounts in Vietnam" was undertaken for the period of 1986-90 (GSO 1992a). The input-output tables for Vietnam in 1989 are part of this project as well. These tables consist of 55 industrial sectors and were computed on three types of measurements - purchasers', producers' and basic prices. Having taken these prices into consideration, the input-output tables which are measured in basic prices are utilised in this study (The 1989, 55-sector transactions table (in basic prices) for Vietnam is included in Appendix 4).

One adjustment made on this table before producing highly-aggregated transactions tables with three-sector and eleven-sector transactions, is that the import column (column 106 in the original table) has been changed into the import row in light of conventional input-output tables. The reason is that import is one of the inputs into current production, therefore, it should be in Quadrant III which is known as the list of the primary inputs in the input-output table.

By using GRIMP, the 1989, 55-Sector Input-Output Table (in basic prices) for Vietnam is aggregated into a highly-aggregated three-sector transactions table for Vietnam which was used as an example in the previous section. An eleven-sector transactions table for Vietnam was developed to assess the economic impact of tourism in Vietnam and the titles of the eleven sectors are given below:

Sector Number	Title
1	Agriculture, Fishing & Forestry
2	Mining
3	Manufacturing
4	Electricity & Water
5	Construction
6	Wholesale & Retail Trade
7	Transport & Communication
8	Finance & Business Services
9	Ownership of Dwelling
10	Public Administration
11	Recreation, Personal & Other Services including hotels, restaurants, clubs and entertainment.

An omission from the eleven-sector input-output table for Vietnam is the figure for employment of each industrial sector. Since 1994, Vietnam has applied a new sectoral classifying system for its economy on the basis of the National Accounts system. The numbers employed for each classified industrial sector out of 55 sectors of the whole economy were not available for the year 1994, although several attempts at compilation and estimates had been made by the author

4.2.2 Primary data

For the purpose of this study, assessing the economic impact of international tourism by using the input-output approach requires tourist expenditures by groups of tourists and the sectoral breakdown of tourist expenditure in each of the tourist categories, in relation to the appropriate sectors of the economy in the input-output tables for Vietnam.

In the absence of such data on tourist expenditure patterns, a sample survey covering the international tourists to Vietnam was conducted in Hanoi during April and May 1995 at tourist facilities such as hotels, restaurants, travel agencies and other tourist attractions. Surveyors, who were mostly receptionists, tour guides and travel consultants took every opportunity to approach foreign visitors and asked for their participation in the survey. The questionnaire form used in the survey is given in Appendix 9.

The number of questionnaires distributed to each of the above respondents and the responses are given below:

Table 4.5: International tourist sample survey in Hanoi

Type of facilities	Number of questionnaires	Number responding and eligible	Percent responding and eligible (%)
Travel Agents	40	26	65
Hotels/Guesthouses	100	78	78
Tourist attractions	60	58	97
	200	**162**	**81**

Based on the tourist classification by the Vietnam National Administration of Tourism (mentioned in Chapter 3) international tourists (excluding *Viet kieu*) to Vietnam are categorised into eight groups by country of origin as follows:

1. Taiwan;
2. France;
3. Japan;
4. The United States of America (USA);
5. The United Kingdom (UK);
6. Thailand;
7. Hong Kong;
8. Others.

Tourist expenditure patterns of each group were broken down into the appropriate sectors in the 1989, eleven aggregated sectors input-output table for Vietnam. With respect to the first-round effects of expenditure, only four of those sectors were regarded as being relevant to tourist expenditure. These sectors were Wholesale & Retail Trade, Transport & Communication, Finance & Business Services and Recreation, Personal & Other Services (See Table 4.6).

Table 4.6: Sectoral breakdowns of tourist expenditure patterns

Sector Number	Sector Title	Tourist Expenditure Items
6	Wholesale and Retail Trade	Shopping
7	Transport and Communication	Transport
8	Finance and Business Services	Departure tax, Insurance
11	Recreation, Personal and Other Services	Accommodation; Food and Beverage; Entertainment; Miscellaneous

4.2.3 Assumptions

According to the Vietnam National Administration of Tourism, international tourists visiting Vietnam have been classified into two major categories, namely, foreign visitors and overseas Vietnamese (*Viet kieu*). The recent sample survey conducted in Vietnam covered only the first category of international tourists to Vietnam, that is, the foreign visitor category, excluding Vietnamese origin residents overseas who visited Vietnam during the survey period. The data relating to overseas Vietnamese (*Viet kieu*) could not be collected because the target groups for the survey were interviewed in commercial tourist facilities in Hanoi. Normally, when overseas Vietnamese visit Vietnam they usually stay with their friends and relations.

The sample survey was carried out in Hanoi, one of the main tourist destinations in Vietnam. This study also assumes that foreign visitors by country of origin who were visiting and interviewed in Hanoi would have had the same expenditure patterns to those foreign visitors visiting anywhere else in Vietnam.

Although the tourist expenditure patterns were collected during the 1995 survey, the economic impact analysis was done on the basis of the international visitor arrivals to Vietnam during 1994. Thus, for the purpose of this study, it was assumed that the expenditure patterns of foreign tourists were similar in 1995 and 1994.

CHAPTER 5

ASSESSING THE ECONOMIC IMPACT OF INTERNATIONAL TOURISM ON VIETNAM'S ECONOMY

5.1 THE 1989, AGGREGATED ELEVEN-SECTOR INPUT-OUTPUT TABLE FOR VIETNAM

The latest 1989, 55-sector input-output table for Vietnam which was developed by the United Nations Development Program was aggregated into an eleven-sector transactions table by using GRIMP, the input-output software package (West 1986). The 55-sector and the aggregated eleven-sector transaction input-output tables (in basic prices) for Vietnam are shown in Appendix 4 and Appendix 7. However, as mentioned earlier in chapter 4 (page 74), the figures for employment of each industrial sector in the two tables were not available.

Subsequently, the 1989, eleven-sector input-output table for Vietnam was utilised in this analysis. A description of industries contained within each of these 11 sectors is presented in Appendix 6. The analysis refers to 'sector number' which reflects the different industries where an economic impact has occurred. The sector numbers and corresponding titles are given in Table 5.1 below.

Table 5.1: Sector titles for the 1989, eleven-sector input-output table for Vietnam

Sector Number	Title
1	Agriculture, Fishing & Forestry
2	Mining
3	Manufacturing
4	Electricity & Water
5	Construction
6	Wholesale & Retail Trade
7	Transport & Communication
8	Finance & Business Services
9	Ownership of Dwelling
10	Public Administration
11	Recreation, Personal & Other Services including Hotels, Restaurants, Clubs & Entertainment

The newly created eleven-sector input-output table for Vietnam was used as the basic table to produce other accompanying tables of co-efficients and multipliers. The tables relating to transactions, co-efficients, open and closed inverse matrices and multipliers, excluding employment multipliers, are included in Appendix 7.

Furthermore, for the purpose of this study, which is to assess the economic impact of international tourism on the economy in relation to some relevant industrial sectors, those sectors were disaggregated by also using GRIMP, in order to examine the inter industry linkages. The tables relating to disaggregated multipliers, excepting employment multipliers for the four relevant sectors, namely, Sector 6 (Wholesale & Retail Trade), 7 (Transport & Communication), 8 (Finance & Business Services) and 11 (Recreation, Personal & Other Services including Hotels, Restaurants, Clubs & Entertainment) are included in Appendix 7 as well.

5.2 ESTIMATIONS OF TOURIST EXPENDITURE

It should be noted that the 1989 transactions tables were based on Vietnamese currency, that is Vietnam Dong (D), whilst the tourist expenditure patterns by various groups of international visitors, which were collected by the sample survey conducted in Vietnam during April - May 1995, were based on the US dollar. However, the US currency value was subsequently converted into Vietnamese currency at the average foreign exchange rate of the year 1994.

International tourists visiting Vietnam have been classified and counted by country of origin or their nationality. Table 5.2 presents the numbers of international visitor arrivals by country of origin or nationality in 1994, the year being examined in this study.

Table 5.2: International visitor arrivals by country of origin, 1994

Country of origin	Arrivals	%
Taiwan	184,241	25.0
France	96,697	13.1
Japan	65,055	8.8
USA	42,438	5.7
United Kingdom	36,863	5.0
Thailand	23,581	3.2
Hong Kong	23,186	3.1
Others	266,600	36.1
Total Foreign Visitors	**738,661**	**100.0**

Source: *Abstracted from Table 3.6.*

The average tourist expenditure of each group of foreign visitors to Vietnam was estimated by using the primary data collected by the sample survey. Consequently, it was possible to estimate the total initial tourist expenditure by various groups of foreign visitors according to country of origin. The following table shows the number of foreign visitor arrivals from each category, the average tourist expenditure and the total initial tourist expenditure by each category of such visitors (Table 5.3).

Table 5.3: Estimated average and total tourist expenditure by country of origin, 1994

	Arrivals	Average Expenditure (US$)	Average Expenditure[12] (D thousand)	Total Expenditure[13] (D million)
Taiwan	184,241	2,346	25,571	4,711,000
France	96,697	1,192	12,993	1,256,000
Japan	65,055	5,884	64,136	4,172,000
USA	42,438	3,655	39,840	1,690,000
UK	36,863	641	6,987	258,000
Thailand	23,581	804	8,764	207,000
Hong Kong	23,186	1,356	14,780	343,000
Others	266,600	1,392	15,173	4,045,000
TOTAL	**738,661**	**1,786**	**19,467**	**16,682,000**

According to question number 14 of the survey questionnaire (see Appendix 9), the tourist expenditure patterns relating to various items purchased by foreign visitors were collected. The breakdowns of such expenditure items according to different groups of visitors are given in Table 5.4 below.

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[12]In 1994, approximately US$1 = D10,900 (Economist Intelligence Unit 1995).

[13]Total expenditure is arrived at by multiplying the number of arrivals by the average expenditure for each category of foreign visitors.

Table 5.4: Tourist expenditure profile by country of origin, 1994

Percentage (%)

Expenditure item	Taiwan	France	Japan	USA	UK	T.land	H.K	Others	Overall
Accommodation	46	31	32	24	38	33	44	45	35
Food & Beverage	21	22	16	21	28	28	30	18	20
Local Transport	11	17	23	29	20	14	18	16	20
Shopping	13	14	12	9	7	11	7.5	10	11
Entertainment	4	9	7	15	4	8	-	6	8
Dep.Tax & Ins.	2	1	7	1	2	1	0.5	2.5	3
Miscellaneous	3	6	3	1	1	5	-	2.5	3
Total	100	100	100	100	100	100	100.0	100.0	100

The method for specifying tourist expenditure in a suitable form for input-output analysis requires elaboration and sectoral breakdowns of such tourist expenditure for various groups of foreign visitors into the relevant sectors in the eleven-sector input-output table for Vietnam. With respect to the first-round effects of expenditure, only four of those 11 sectors are regarded as being relevant to tourist expenditure. These sectors are Wholesale & Retail Trade (Sector 6), Transport & Communication (Sector 7), Finance & Business Services (Sector 8) and Recreation, Personal & Other Services (Sector 11). Sectoral breakdowns of the total initial tourist expenditure by various groups of foreign visitors to Vietnam in 1994 are given in Table 5.5 below.

Table 5.5: Sectoral distribution of initial tourist expenditure by country of origin, 1994

	Sector 6		Sector 7		Sector 8		Sector 11		Total (D million)
	%	D million	%	D million	%	D million	%	D million	
Taiwan	13	613,000	11	518,000	2	94,000	74	3,486,000	4,711,000
France	14	176,000	17	213,000	1	13,000	68	854,000	1,256,000
Japan	12	501,000	23	959,000	7	292,000	58	2,420,000	4,172,000
USA	9	152,000	29	490,000	1	17,000	61	1,031,000	1,690,000
UK	7	18,000	20	52,000	2	5,000	71	183,000	258,000
Thailand	11	23,000	14	29,000	1	2,000	74	153,000	207,000
Hong Kong	7.5	26,000	18	62,000	0.5	1,000	74	254,000	343,000
Others	10	405,000	16	647,000	2.5	101,000	71.5	2,892,000	4,045,000
Total	**11**	**1,914,000**	**20**	**2,970,000**	**3**	**525,000**	**66**	**11,273,000**	**16,682,000**

As mentioned in the previous chapter (Table 4.6), the above table is based on the distribution of the shopping item to Sector 6, the local transport item to Sector 7, the departure tax & insurance item to Sector 8 and the rest of tourist expenditure to Sector 11.

5.3 ECONOMIC IMPACT OF INTERNATIONAL TOURIST EXPENDITURE - TOTAL OUTPUT

The output multipliers for the relevant sectors to tourism are shown in Table 5.6 (please also see Appendix 7).

Table 5.6: Total output multipliers ('0000)

	Sector 6	Sector 7	Sector 8	Sector 11
Initial Impact	**1.0000**	**1.0000**	**1.0000**	**1.0000**
First Round	0.2414	0.5340	0.2993	0.3598
Industrial Support	0.1261	0.2683	0.1606	0.1969
Consumption Induced	0.9539	0.9770	0.8136	1.3653
Total	**2.3214**	**2.7793**	**2.2735**	**2.9219**
Flow-on Effects	**1.3214**	**1.7793**	**1.2735**	**1.9219**

The output multipliers indicated in Table 5.6 refer to the initial (or direct) and flow-on (or indirect) effects of one initial *dong* output/sale calculated for each sector. For example, each additional *dong* of sales by the Wholesale & Retail Trade Sector (Sector 6) to final demand would result in 24 *xus*[14] (cents) in the first round effects in all sectors, 13 *xus* in industrial support and 95 *xus* in consumption-induced output effects, giving a total output effect of D2.3214, with a flow-on effect from the initial *dong* effect of D1.3214 on the productive sectors of the economy. The flow-on effect is considered to be the output result of the assumed *dong* output stimulus to the country's economy. This depicts the multiplier as a measure of response to a stimulus which can be valued in this case as an additional *dong* of output.

[14]Another unit of the Vietnamese currency, it equals one 100th part of a Vietnamese Dong.

Table 5.7: Estimated economic impact on total output in Vietnam, 1994 (D million)

(selected groups of foreign visitors)[15]

Sector No.	Name of Sector	Initial	Flow-on	Total
6	Wholesale & Retail Trade	1,914,000	2,529,000	4,443,000
	Taiwan	613,000	810,000	1,423,000
	France	176,000	232,000	408,000
	Japan	501,000	662,000	1,163,000
	USA	152,000	201,000	353,000
	Others	472,000	624,000	1,096,000
7	Transport & Communication	2,970,000	5,285,000	8,255,000
	Taiwan	518,000	922,000	1,440,000
	France	213,000	379,000	592,000
	Japan	959,000	1,706,000	2,665,000
	USA	490,000	872,000	1,362,000
	Others	790,000	1,406,000	2,196,000
8	Finance & Business Services	525,000	669,000	1,194,000
	Taiwan	94,000	120,000	214,000
	France	13,000	16,000	29,000
	Japan	292,000	372,000	664,000
	USA	17,000	22,000	39,000
	Others	109,000	139,000	248,000
11	Recreation, Personal&Other Serv.	11,273,000	21,665,000	32,938,000
	Taiwan	3,486,000	6,700,000	10,186,000
	France	854,000	1,641,000	2,495,000
	Japan	2,420,000	4,651,000	7,071,000
	USA	1,031,000	1,981,000	3,012,000
	Others	3,482,000	6,692,000	10,174,000
	Total	16,682,000	30,148,000	46,830,000
	Taiwan	4,711,000	8,552,000	13,263,000
	France	1,256,000	2,268,000	3,524,000
	Japan	4,172,000	7,391,000	11,563,000
	USA	1,690,000	3,076,000	4,766,000
	Others	4,853,000	8,861,000	13,714,000

Applying the total output multipliers (Table 5.6) to the total initial tourist expenditure in 1994, the increase in output (value added) to Vietnam's economy was D46,830 billion from an

[15]For more details on other groups please see Appendix 8.

initial tourist expenditure of D16,682 billion (Table 5.7). The flow-on or indirect effect was D30,148 billion.

Taiwan and Japan were the most significant foreign visitor sources. They contributed D13,263 billion (28%) and D11,563 billion (25%) value added to Vietnam's economy from an initial tourist expenditure of D4,711 billion and D4,172 billion respectively. The flow-on or indirect effects generated by these two visitor sources were D8,552 billion and D7,391 billion respectively.

The most significant sector in terms of total output generated, D32,938 billion (70%), was Sector 11 (Recreation, Personal and Other Services including hotels, restaurants, clubs and entertainment). The flow-on effect generated by this sector was D21,665 billion (72%) in 1994.

5.4 ECONOMIC IMPACT OF INTERNATIONAL TOURIST EXPENDITURE - HOUSEHOLD INCOME

The household income multipliers for the relevant sectors to tourism are shown in Table 5.8 (please also see Appendix 7).

Table 5.8: Total household income multipliers ('0000)

	Sector 6	Sector 7	Sector 8	Sector 11
Initial Impact	0.3132	**0.2592**	**0.2496**	**0.4416**
First Round	0.0455	0.0797	0.0457	0.0669
Industrial Support	0.0247	0.0539	0.0317	0.0404
Consumption Induced	0.2923	0.2994	0.2493	0.4183
Total	**0.6757**	**0.6921**	**0.5764**	**0.9672**
Flow-on Effects	**0.3625**	**0.4329**	**0.3268**	**0.5256**
Type I Ratio	1.22	1.52	1.31	1.24
Type II Ratio	2.16	2.67	2.31	2.19

The household income multipliers shown in Table 5.8 indicate the initial or direct and the flow-on or indirect effects of the salaries and wages component on each of the four sectors. The Wholesale & Retail Trade Sector, for example, paid 31 *xus* to its employees per one additional *dong* of sales. Consequently, it was expected to result in approximately 5 *xus* in first round effects in all sectors, 2 *xus* in industrial support and 29 *xus* in consumption-induced household income effects, giving a total household multiplier of approximately 68 *xus* with a flow-on effect of 36 *xus*.

This table also presents Type I and Type II household income multipliers. Type I ratios as used in Table 5.8 indicate the magnitude of purchases by a particular sector of the economy

from other sectors. The Type II ratios indicate the ability of the local sectors to provide the range and quality of goods and services demanded by the household consumption sector.

Relatively higher first round but lower industrial support multipliers indicate the high wage intensiveness of the industries (in general) and low propensity to make indirect purchases from those eleven industries. The Type I ratios for household income for the selected sectors above were moderate. The moderate values of Type I ratios reflected the magnitude of such sectors' purchases from other sectors. The Type II ratios for household income were also moderate. The moderate values of Type II ratios indicate the ability of the local sectors to provide the bulk of the goods and services demanded by the household consumption sector.

Table 5.9: Estimated economic impact on household income in Vietnam, 1994 (D m) (selected groups of foreign visitors)[16]

Sector No.	Name of Sector	Initial	Flow-on	Total
6	Wholesale & Retail Trade	600,000	694,000	1,294,000
	Taiwan	192,000	222,000	414,000
	France	55,000	64,000	119,000
	Japan	157,000	182,000	339,000
	USA	48,000	55,000	103,000
	Others	148,000	171,000	319,000
7	Transport & Communication	770,000	1,285,000	2,055,000
	Taiwan	134,000	224,000	358,000
	France	55,000	92,000	147,000
	Japan	249,000	415,000	664,000
	USA	127,000	212,000	339,000
	Others	205,000	342,000	547,000
8	Finance & Business Services	131,000	172,000	303,000
	Taiwan	24,000	31,000	55,000
	France	3,000	4,000	7,000
	Japan	73,000	95,000	168,000
	USA	4,000	6,000	10,000
	Others	27,000	36,000	63,000
11	Recreation, Personal&Other Serv.	4,978,000	5,925,000	10,903,000
	Taiwan	1,539,000	1,832,000	3,371,000
	France	377,000	449,000	826,000
	Japan	1,069,000	1,272,000	2,341,000
	USA	455,000	542,000	997,000
	Others	1,538,000	1,830,000	3,368,000
	Total	6,479,000	8,076,000	14,555,000
	Taiwan	1,889,000	2,309,000	4,198,000
	France	490,000	609,000	1,099,000
	Japan	1,548,000	1,964,000	3,512,000
	USA	634,000	815,000	1,449,000
	Others	1,918,000	2,379,000	4,297,000

Applying the household income co-efficients (Table 5.8) to the tourist expenditure in 1994, wages and salaries increased by D14,555 billion, from an initial household income impact of

[16]See footnote 15

D6,479 billion (Table 5.9). The flow-on effect was D8,076 billion.

Again, Taiwan and Japan were the most significant foreign visitor sources. They contributed D4,198 billion (29%) and D3,512 billion (24%) respectively, as household income to Vietnam's economy from the initial household income effects of D1,889 billion and D1,548 billion respectively. The flow-on or indirect impacts generated by these two visitor sources were D2,309 billion and D1,964 billion respectively.

The most significant sector in terms of household income generated, D10,903 billion(72%), was still Sector 11 (Recreation, Personal and Other Services including hotels, restaurants, clubs and entertainment). The indirect impact generated by this sector was D5,925 billion (73%) in 1994.

5.5 ECONOMIC IMPACT OF INTERNATIONAL TOURIST EXPENDITURE - EMPLOYMENT

Since employment numbers relating to the input-output tables for Vietnam were not available, employment generation through the expenditure by tourists in Sri Lanka was used to analyse the employment effect on tourism expenditure in Vietnam. According to King and Gamage (1994), one direct job and one and a half indirect jobs resulted from each 12 additional international visitors to Sri Lanka. It should be noted that the two economies are similar in terms of many economic indicators.

Table 5.10: Estimated economic impact on employment in Vietnam, 1994 (jobs)

	Direct	Indirect	Total	%
Taiwan	15,353	23,030	38,383	25.0
France	8,058	12,087	20,145	13.1
Japan	5,421	8,132	13,553	8.8
USA	3,537	5,305	8,842	5.7
UK	3,072	4,608	7,680	5.0
Thailand	1,965	2,948	4,913	3.2
Hong Kong	1,932	2,898	4,830	3.1
Others	22,217	33,325	55,542	36.1
Total	**61,555**	**92,333**	**153,888**	**100.0**

The above table indicates that 61,555 full-time employment positions were created to meet the need of the initial tourist expenditure by international visitors to Vietnam in 1994. The total impact of tourist expenditure amounted to an increase of approximately 153,888 full-time employment positions. In essence, the results indicate that with an initial tourist expenditure of D16,682,000 million, 61,555 jobs have potentially been directly created, or 1 job with

every D271 million (or US$ 24,862) of initial tourist expenditure (the calculations are shown below).

X = Initial Output/Initial Employment

= D16,682,000m/61,555

= D271m (or US$ 24,862)

Taiwanese and French visitors generated the most significant potential for creating employment opportunities for Vietnam. Approximately 15,353 (25%) and 8,058 (13%) full-time employment positions were created to meet the need of the initial tourist expenditure by Taiwanese and French visitor groups respectively. The total impact of these two visitor groups amounted to an increase of approximately 38,383 and 20,145 full-time employment positions respectively. The indirect jobs generated by these two visitor groups were 23,030 and 12,087 jobs respectively, for the year 1994.

Based on the above Output/Employment ratio, the employment opportunities could be estimated for each tourism-related sector of Vietnam's economy as shown in Table 5.12 below.[17]

[17]For more details on employment positions estimated for each group of foreign visitors in each relevant sector, please see Appendix 8.

Table 5.11: Estimated economic impact on employment in relevant sectors, 1994 (jobs)

Sector No.	Name of Sector	Direct	Indirect	Total
6	Wholesale & Retail Trade	7,062	10,593	17,655
7	Transport & Communication	10,959	16,439	27,398
8	Finance & Business Services	1,937	2,906	4,843
11	Recreation, Personal & Other Ser.	41,597	62,395	103,992
	Total	**61,555**	**92,333**	**153,888**

Once again, the most significant sector in terms of employment creation was Sector 11 (Recreation, Personal and Other Services including hotels, restaurants, clubs and entertainment), which generated 103,992 full-time employment positions (68%). The direct and indirect employment opportunities created in this sector were 41,597 and 62,395 full-time equivalent positions (68%) respectively, in 1994.

5.6 INTER INDUSTRY LINKAGE - OUTPUT

The flow-on effect (the first round, industrial support and consumption-induced effects) on total output in Sectors 6, 7, 8 and 11 were D2,529 billion, D5,285 billion, D669 billion and D21,665 billion respectively. The sectors (industries) of Vietnam's economy which benefited from these flow-on effects by providing goods and services to the above sectors where the initial tourist expenditure occurred, are shown in Tables 5.12, 5.13, 5.14 and 5.15.

Table 5.12: Sector 6 flow-on effects of wholesale and retail trade expenditure on other industries' output

Sector 6 Flow-on = D2,529,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	3	41.19	0.5442	566,890
2	1	28.44	0.3758	270,293
3	11	7.65	0.1011	19,560
4	9	5.60	0.0739	10,466
5	6	5.52	0.0729	10,177
6	8	2.96	0.0391	2,927
7	4	2.49	0.0329	2,072
8	7	2.37	0.0313	1,876
9	5	2.29	0.0303	1,755
10	2	1.19	0.0157	472.5
11	10	0.30	0.0040	30
Total		100.00	1.3214	886,518.5

Sector 3 (Manufacturing) gained the most benefits by earning approximately an additional D567 billion from the flow-on tourist expenditure in Sector 6 (Wholesale and Retail Trade).

Other businesses within Sector 1 (Agriculture, Fishing and Forestry) gained D270 billion (Table 5.12) from the flow-on tourist expenditure by businesses in Sector 6, where the initial tourist expenditure occurred.

Table 5.13: Sector 7 flow-on effects of transport and communication expenditure on other industries' output

Sector 7 Flow-on = D5,285,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	3	53.27	0.9479	2,668,641
2	1	22.57	0.4016	479,038
3	6	8.68	0.1544	70,829
4	11	5.42	0.0964	27,613.5
5	9	3.09	0.0551	8,998
6	7	2.01	0.0358	3,803
7	4	1.86	0.0330	3,244
8	2	1.05	0.0187	1,038
9	5	1.05	0.0186	1,032
10	8	0.84	0.0150	666
11	10	0.16	0.0029	24.5
Total		100.00	1.7793	3,264,927

As with the flow-on tourist expenditure in Sector 6, Sector 3 (Manufacturing) clearly benefited from the flow-on tourist expenditure in Sector 7, increasing its economic output by approximately D2,670 billion (Table 5.13). Sector 3 includes the manufacturing of alcoholic & beverages, vegetable & fruit canning, tea & coffee processing and tobacco & cigarettes.

Table 5.14: Sector 8 flow-on effects of finance and business services expenditure on other industries' output

Sector 8 Flow-on = D669,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	3	50.23	0.6397	214,964
2	1	25.06	0.3192	53,514
3	11	7.77	0.0989	5,141
4	6	5.88	0.0749	2,946
5	7	3.18	0.0405	862
6	9	3.12	0.0397	829
7	4	1.89	0.0240	303.5
8	5	1.05	0.0134	94
9	2	0.95	0.0121	77
10	8	0.70	0.0089	42
11	10	0.17	0.0022	2.5
Total		100.00	1.2735	278,775

Similarly, with a flow-on tourist expenditure from the initial tourist expenditure in Sector 8, Sector 3 benefited the most with an increase of approximately D215 billion (Table 5.14).

Table 5.15: Sector 11 flow-on effects of recreation, personal and other services' expenditure on other industries' output

Sector 11 Flow-on = D21,665,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	3	45.54	0.8752	8,634,934
2	1	28.09	0.5399	3,285,670
3	11	8.82	0.1696	324,081
4	6	5.52	0.1061	126,886
5	9	3.57	0.0685	52,981
6	7	2.26	0.0434	21,250
7	4	2.06	0.0397	17,718
8	5	1.39	0.0268	8,071
9	2	1.12	0.0215	5,217
10	10	1.06	0.0203	4,662
11	8	0.57	0.0109	1,346
Total		100.00	1.9219	12,482,816

Once again, Sector 3 clearly gained the most benefits by earning approximately an additional D8,635 billion (Table 5.15) from the flow-on tourist expenditure in Sector 11. Other businesses within Sector 1 gained approximately D3,286 billion from the flow-on tourist expenditure by businesses in Sector 11, where the initial tourist expenditure occurred.

5.7 INTER INDUSTRY LINKAGE - HOUSEHOLD INCOME

The flow-on effects resulting from increased wages and salaries (household income) by persons employed in Sector 6 had the biggest economic impact in Sectors 1 (Agriculture, Fishing and Forestry) and 3 (Manufacturing), which gained approximately D69 billion and D7 billion in household income benefits respectively (Table 5.16).

Table 5.16: Sector 6 flow-on effects of wholesale and retail trade expenditure on other industries' household income

Sector 6 Flow-on = D694,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	1	52.21	0.1893	68,590.5
2	3	16.70	0.0605	7,012
3	11	12.31	0.0446	3,810
4	6	6.30	0.0228	997
5	9	2.95	0.0107	219
6	8	2.69	0.0098	183
7	5	2.65	0.0096	176.5
8	7	2.24	0.0081	126
9	2	1.20	0.0044	37
10	10	0.47	0.0017	5.5
11	4	0.28	0.0010	2
Total		100.00	0.3625	81,158.5

Sector 7 wage and salary earners' additional expenditure was primarily gained by businesses in Sector 1 (Agriculture, Fishing and Forestry), which was approximately D121 billion (Table 5.17).

Table 5.17: Sector 7 flow-on effects of transport and communication expenditure on other industries' household income

Sector 7 Flow-on = D1,285,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	1	46.71	0.2022	121,365
2	3	24.36	0.1055	33,024
3	6	11.17	0.0484	6,947
4	11	9.83	0.0426	5,381
5	7	2.14	0.0093	256
6	9	1.84	0.0080	189
7	5	1.36	0.0059	103
8	2	1.19	0.0052	79.5
9	8	0.86	0.0037	41
10	10	0.29	0.0012	4.5
11	4	0.23	0.0010	3
Total		100.00	0.4329	167,393

Sector 1 gained the most benefits, approximately D14 billion, from the flow-on expenditure resulting from wage and salary earners in Sector 8 (Finance and Business Services) (Table 5.18).

Table 5.18: Sector 8 flow-on effects of finance and business services' expenditure on other industries' household income

Sector 8 Flow-on = D172,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	1	49.19	0.1607	13,596
2	3	21.78	0.0712	2,667
3	11	13.37	0.0437	1,005
4	6	7.18	0.0235	290
5	7	3.21	0.0105	58
6	9	1.75	0.0057	17
7	5	1.30	0.0042	9
8	2	1.03	0.0034	6
9	8	0.68	0.0022	2.6
10	10	0.28	0.0009	0.4
11	4	0.22	0.0007	0.3
Total		100.00	0.3267	17,651.3

Sector 1 still gained the most benefits (approximately D833 billion) from the flow-on expenditure resulting from wage and salary earners in Sector 11 (Recreation, Personal and Other Services including hotels, restaurants, clubs and entertainment) (Table 5.19).

Table 5.19: Sector 11 flow-on effects of recreation, personal and other services' expenditure on other industries' household income

Sector 11 Flow-on = D5,925,000 million				
Rank	Sector	Percentage (%)	Multiplier ('0000)	Actual Impact (D million)
1	1	51.73	0.2719	833,374
2	3	18.52	0.0974	106,878
3	11	14.25	0.0749	63,239
4	6	6.32	0.0332	12,432
5	7	2.14	0.0112	1,420
6	9	1.88	0.0099	1,103
7	10	1.66	0.0088	865.5
8	5	1.61	0.0085	811
9	2	1.14	0.0060	405
10	8	0.52	0.0027	83
11	4	0.23	0.0012	16
Total		100.00	0.5256	1,020,626.5

While Sector 3 (Manufacturing) gained the most economic benefits from output flow-on in all four sectors of the initial tourist expenditure (approximately D12,085 billion), Sector 1 (Agriculture, Fishing and Forestry) benefited the most from flow-on wage and salary expenditure (about D1,037 billion) in all four sectors of the initial tourist expenditure. These results are not surprising given the expectation for businesses who have increased their output to purchase additional goods and services from other businesses (Sector 3 Manufacturing) to produce that output. Likewise, consumers (wage and salary earners) in Vietnam are highly

likely to spend their earnings in the agricultural sector (Sector 1 Agriculture, Fishing and Forestry).

CHAPTER 6

RECOMMENDATIONS AND CONCLUSION

6.1 SUMMARY OF THE MAIN FINDINGS

* The economic impact on Vietnam in 1994 of tourist expenditure resulting from international tourism was **D61,385 billion.** Employment increased by **153,888 full-time** positions (Table 6.1).

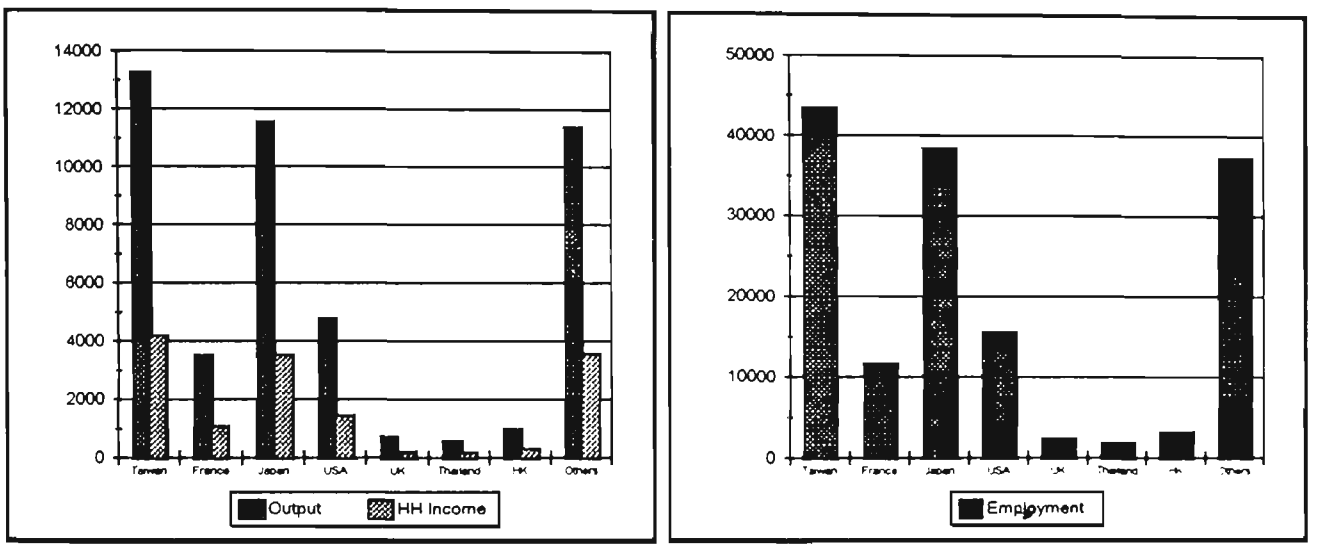
Table 6.1: Estimated total economic impact of international tourism on Vietnam's economy, 1994

	Output (D million)	Income (D million)	Total (D million)	Employment (jobs)
Taiwan	13,263,000	4,198,000	17,461,000	43,459
France	3,524,000	1,099,000	4,623,000	11,586
Japan	11,563,000	3,512,000	15,075,000	38,486
USA	4,766,000	1,449,000	6,215,000	15,590
UK	733,200	228,750	961,950	2,380
Thailand	585,500	184,700	770,200	1,909
Hong Kong	977,300	306,550	1,283,850	3,163
Others	11,418,000	3,577,000	14,995,000	37,315
TOTAL	**46,830,000**	**14,555,000**	**61,385,000**	**153,888**

* Japan, the USA and Taiwan were the key foreign visitor groups of Vietnam's inbound tourism. They spent the highest levels of the average tourist expenditure per visitor which were US$ 5,884, US$ 3,655 and US$ 2,346 respectively. However, the number of visitor arrivals of each group was ranked for Taiwan (184,241), France (96,697), and Japan (65,055), thus, the estimated total initial tourist expenditure in 1994 in Vietnam was ranked for Taiwan (D4,711 billion), Japan (D4,172 billion), the USA (D1,690 billion) and France (D1,256 billion).

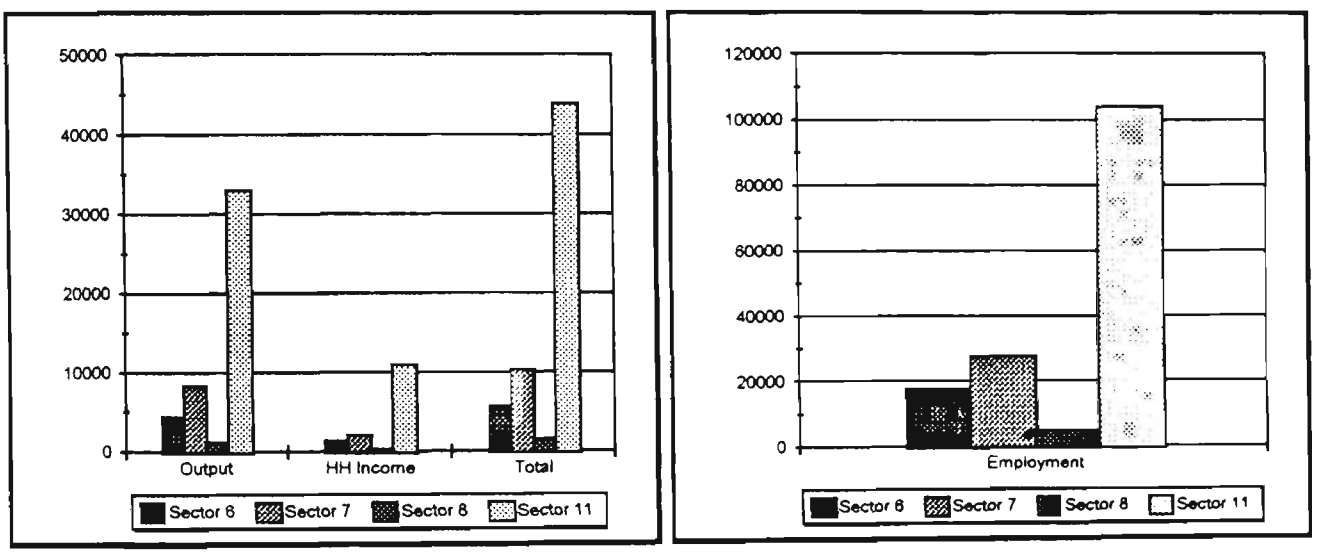
Furthermore, Taiwan and Japan were the most important groups of foreign visitors to Vietnam in creating additional economic outcomes from their initial tourist expenditure. Figure 6.1 demonstrates the economic outcomes from the initial tourist expenditures compared to each other group of foreign visitors in 1994, by country of origin.

Figure 6.1: Total output, household income (D billion) and employment (jobs) effects from initial tourist expenditure by country of origin, 1994



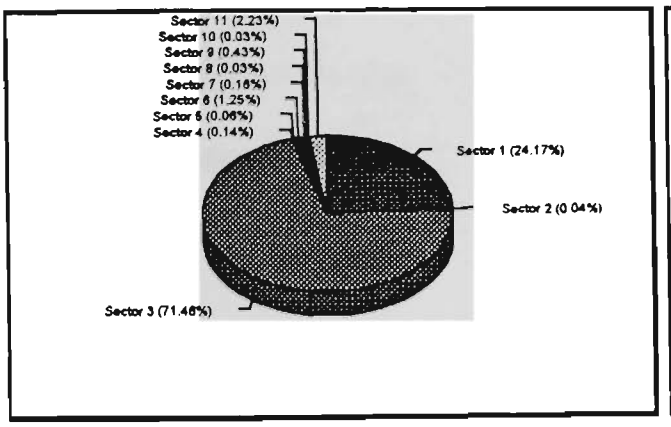
* Most economic benefits (direct and indirect) were gained by businesses in Sector 11 (Recreation, Personal and Other Services including hotels, restaurants, clubs and entertainment). Vietnam's output and household income in Sector 11 increased by **D43,841 billion** (71%). Employment increased by **103,992** full-time equivalent jobs (68%) (Figure 6.2 and also see Appendix 10).

Figure 6.2: Total economic impact on output, household income (D billion) and employment (jobs) in relevant industrial sectors, 1994

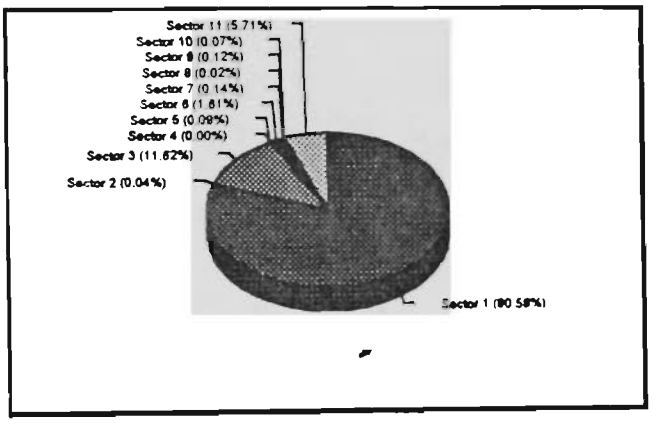


* Sector 3 (Manufacturing) benefited the most (approximately D12,085 billion or 71.5%) from the increased output flow-on effect (indirect impact) in the four sectors where the initial tourist expenditure occurred, whilst Sector 1 (Agriculture, Fishing & Forestry) gained the most benefit (approximately D1,037 billion or 81%) from the flow-on expenditure resulting from wage and salary earners in the four sectors. Overall, the most economic benefits from the increased output and household income flow-on effects were gained by businesses in Sector 3 (approximately D12,235 billion or 67%) (Figure 6.3 and also see Appendix 10).

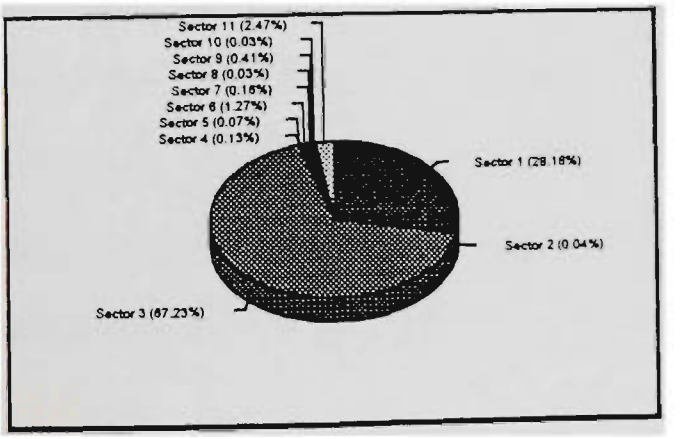
Figure 6.3: Total flow-on effects of the four tourism-related sectors' expenditure on other industries' output and household income, 1994



Flow-on Effect on Total Output



Flow-on Effect on HH Income



Flow-on Effects on Total Output and Household Income

6.2 RECOMMENDATIONS AND CONCLUSION

This is the first study to examine and assess the economic impact of tourism development, particularly international tourism, on Vietnam's economy. The study has addressed a number of issues. Firstly, it placed the development of tourism in Vietnam within the context of international concerns for developing countries. Secondly, it explored the methods to assess and measure the economic impact of tourism development, in particular, the conventional input-output technique. Thirdly, for the first time, this study has described the tourist expenditure patterns of international visitors to Vietnam by country of origin. Fourthly, it estimated the contribution made by international tourism to gross domestic product, household income and employment opportunities in Vietnam. Finally, it provided a framework within which further analysis can proceed to explore the economic and other implications of tourism for Vietnam.

The underlying themes, however, are the application of the input-output model, in spite of some its limitations, on the basis of producing the highly-aggregated three-sector and eleven-sector input-output tables for Vietnam and the assessment of the economic impact of foreign tourist expenditure by using this input-output technique. Additionally, by examining the direct and indirect effects of tourist expenditure, the study has identified the various industries which are involved in supplying goods and services to meet tourism demand. However, the study has not considered, in any detail, the economic impact of outbound and domestic tourism in Vietnam.

The results of this study have indicated that, as in any other developing countries, tourism has had a significant impact on Vietnam's economy. The benefits of tourism, particularly international tourism, are real and important. As a result, tourism is regarded as an important development strategy in Vietnam, even thought it has had a negative impact on the environment and society.

The majority of studies on tourism in economic development are very enthusiastic about the benefits to be gained from it while minimising the lack of benefits. Where Vietnam is concerned, what is important is to examine the tourist sector in a comparative dimension with other sectors of the economy. There is an urgent need for more empirical and theoretical research into tourism and its effects on Vietnam's economy. What is central to future concerns is to ensure that information for policy making is improved and that the problems of tourism management are analysed.

In conclusion, this is the first study to approach the economic impact of tourism development, particularly international tourism, on Vietnam. It is hoped that the findings in this study, that is, the relative contributions to Vietnam's economy by different groups of international tourists, will be a useful guide to the decision makers, such as the government and planners, to adjust their policies and plans for the development of the economy in general and of industry in particular. It is anticipated that the study will also help to form a reference framework for further studies on tourism development in Vietnam in future years.

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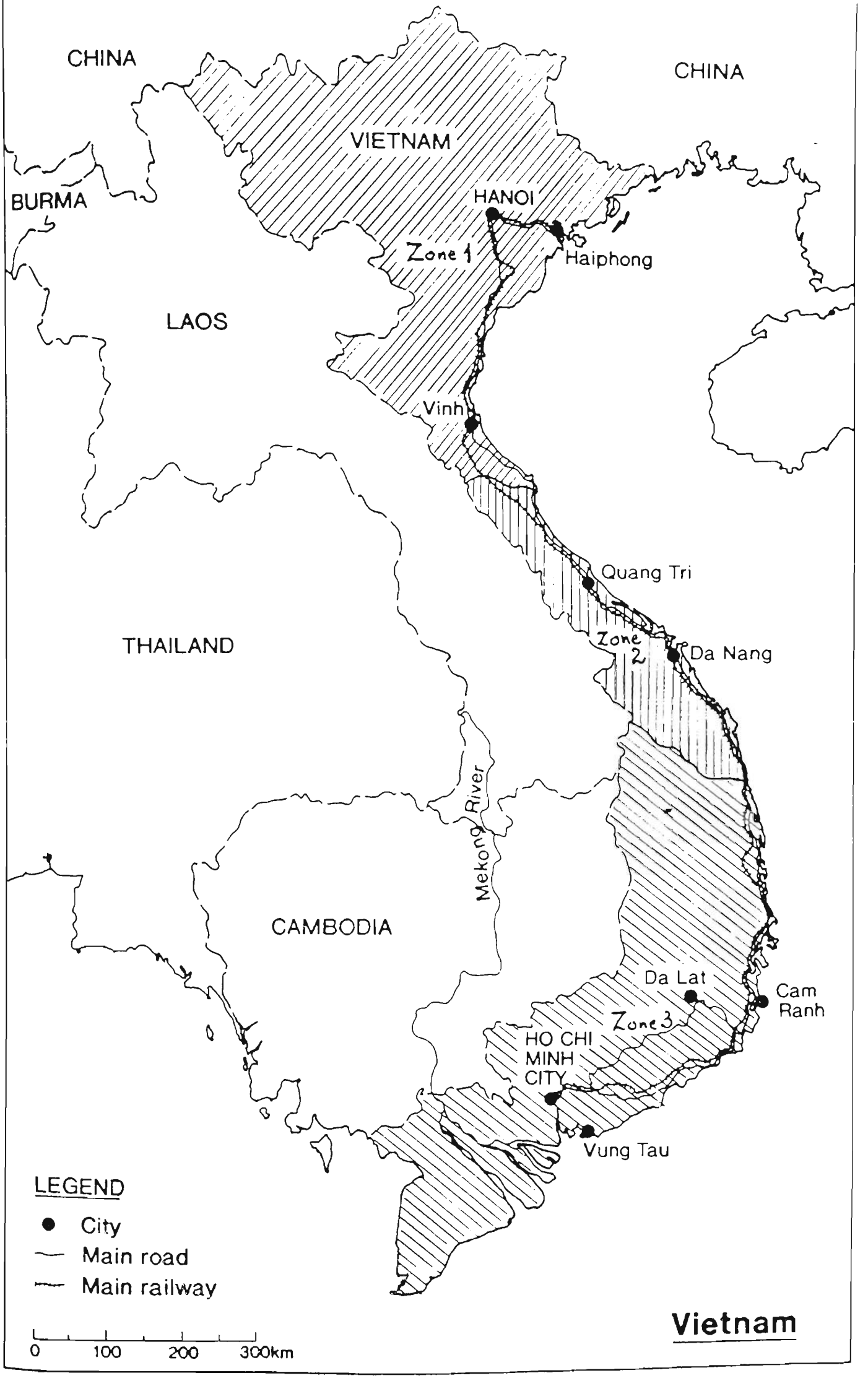
APPENDIX 1

Vietnam in the region (map)

Vietnam in the Region

APPENDIX 2

Tourist zones in Vietnam (map)


CHINA
CHINA
VIETNAM
BURMA
HANOI
Haiphong
Zone 1
LAOS
Vinh
Quang Tri
THAILAND
Zone 2
Da Nang
Mekong River
CAMBODIA
Da Lat
Cam Ranh
Zone 3
HO CHI MINH CITY
Vung Tau
LEGEND
City
Main road
Main railway
0 100 200 300km
Vietnam

APPENDIX 3

Inbound tourism in South-east Asia 1990-94

Annual growth rate of inbound tourism in the South-east Asian countries, 1990-94 (thousand)

	1989	1990	1991	1992	1993	1994	Average annual growth rate (%)
Malaysia	3,950	7,500	5,847	6,016	6,597	6,964	
Annual % change	-	*+90*	*-22*	*+3*	*+9.7*	*+5.6*	*+17.3*
Singapore	4,820	5,310	5,415	5,990	6,230	6,480	
Annual % change	-	*+10.2*	*+2*	*+10.6*	*+4*	*+4*	*+6.2*
Thailand	4,900	5,300	5,087	5,136	5,620	5,950	
Annual % change	-	*+8.2*	*-4*	*+1*	*+9.4*	*+5.9*	*+4.1*
Indonesia	1,630	2,100	2,570	3,064	3,500	4,402	
Annual % change	-	*+28.8*	*+22.4*	*+19.2*	*+14.2*	*+25.8*	*+22.1*
Philippines	1,000	1,020	951	1,153	1,300	1,442	
Annual % change	-	*+2*	*-6.8*	*+21.2*	*+12.7*	*+10.9*	*+8.0*
Vietnam	188	250	300	440	670	1,018	
Annual % change	-	*+33*	*+20*	*+46.7*	*+53.3*	*+52*	*+41.0*
Brunei	NA	NA	399	500	570	585	
Annual % change	-	-	-	*+25.3*	*+14*	*+2.6*	*+14.0*
TOTAL	14,074	21,480	20,569	22,299	24,487	26,841	
Annual % change	-	*+52.6*	*-4.2*	*+8.4*	*+9.8*	*+9.6*	*+15.2*

Source: *Asia Yearbooks,*
Singapore Hotel Association (Spark Magazine).

APPENDIX 4

The 1989, 55-sector input-output table for Vietnam

(in basic prices)

DANH MỤC NGÀNH VÀ MỘT SỐ PHÂN TỔ TRONG CÁC BẢNG I/O NĂM 1989

CLASSIFICATION IN 1989 INPUT-OUTPUT TABLES

1. Điện	1. Electricity
2. Than	2. Coal
3. Khai khoáng	3. Mineral mining
4. Khai thác mỏ	4. Other mining
5. Luyện kim đen	5. Manufacture of ferrous metals
6. Luyện kim màu	6. Manufactare of non-ferrous metals
7. Chế tạo máy	7. Equipment, machinary
8. Điện, điện tử	8. Electrical and electronic products
9. Sản phẩm khác bằng kim loại	9. Other metalic products
10. Hóa chất	10. Chemical products
11. Phân bón, thuốc trừ sâu	11. Fertilizer, insecticide
12. Cao su, sản phẩm từ cao su	12. Rubber, rubber products
13. Xà bông, chất tẩy	13. Soap and cleaning materials
14. Dược phẩm	14. Pharmaceuticals
15. Chất dẻo, sản phẩm từ chất dẻo	15. Plastic, plastic products
16. Hóa chất khác	16. Other chemical products
17. Xi măng	17. Cement
18. Gạch, ngói	18. Bricks, tiles
19. Vật liệu xây dựng khác	19. Other construction materials
20. Chế biến gỗ, lâm sản	20. Wood processing, wood products
21. Giấy, sản phẩm từ giấy	21. Paper, paper products
22. Sành, sứ, gốm, thủy tinh	22. Ceramics, glass, porcelain
23. Xay xát, chế biến lương thực	23. Milling and grain products
24. Khai thác hải sản, thủy sản	24. Fishing
25. Đường	25. Sugar
26. Chế biến rau, quả	26. Vegetable, fruit canning
27. Chế biến chè, cà phê	27. Tea, coffee processing
28. Thuốc lá, thuốc lào	28. Tobacco, cigarettes
29. Chế biến hải sản	29. Aquatic products
30. Rượu, bia, nước giải khát	30. Alcoholic, other beverages
31. Thực phẩm khác	31. Other food stuff
32. Dệt vải, dệt kim	32. Manufacture of textiles
33. Dệt thảm, dệt khác	33. Carpets and rugs

34 Da. may. nhuộm, sản phẩm từ da	34. Leather, footwear, bleaching, dyeing of fabrics
35. Nước, cung cấp nước	35. Water
36. Công nghiệp khác	36. Other industry
37. Trồng trọt	37. Agriculture (except 38)
38. Chăn nuôi	38. Animal husbandry
39. Lâm nghiệp	39. Forestry
40. Xây dựng cơ bản	40. Construction
41. Vận tải hàng hóa	41. Freight transport
42. Vận tải hành khách	42. Passenger transport
43. Bưu điện	43. Communication
44. Thương nghiệp	44. Trade
45. Ăn uống công cộng	45. Restaurants
46. Vật tư	46. Material supply
47. Sản xuất vật chất khác	47. Other materials
48. Tài chính, t/dụng, ng/hàng, bảo/h	48. Finance, insurance
49. Q/lý nhà nước, an/n, quốc phòng	49. Public administration, defence
50. Khoa học, nghiên cứu khoa học	50. Science, reseach
51. Văn hóa, y tế, g/dục, thể dục TT	51. Culture, health, education, sport
52. Nhà ở, du lịch, khách sạn	52. Dwellings, other per.services
53. Sửa chữa phương tiện sinh hoạt	53. Personnal repairs
54. Đảng, mặt trận, không vì lợi	54. Other non-profit services
55. Xăng, dầu mỏ, khí đốt	55. Petroleum, natural gas
56. Khấu hao tài sản cố định	56. Depreciation
57. Thù lao lao động	57. Compensation of employees
58. Lợi nhuận	58. Operating surplus
59. Thuế sản xuất và thuế hàng hóa	59. Indirect taxes (taxes on products and production)
101. Tiêu dùng cá nhân	101. Private final consumption expenditure
102. Tiêu dùng xã hội	102. Government final consumption expenditure
103. Tích lũy tài sản lưu động	103. Change in stocks
104. Tích lũy tài sản cố định	104. Fixed capital formation
105. Xuất khẩu	105. Export
106. Nhập khẩu	106. Import
190. Sản phẩm trong nước	190. GDP
200. Giá trị sản xuất ngành	200. Gross industry output
201. Giá trị sản xuất sản phẩm	201. Gross product output

39. BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	1	2	3	4	5	6
1	37 956	9 807	0	17 023	12 775	1 753
2	41 246	5 728	0	2 457	11 728	1 055
3	0	0	9	0	423	0
4	0	0	0	0	0	0
5	3 814	2 716	355	0	50 377	1 266
6	3 997	187	0	0	1 000	39 904
7	127 020	22 880	13	0	283	4 502
8	2 382	2 063	50	540	347	480
9	1 007	2 976	32	23 026	394	349
10	456	38 395	0	30	306	186
11	0	0	0	0	0	0
12	54	3 617	2	123	215	299
13	182	4	0	27	36	42
14	32	635	0	0	0	178
15	295	34	0	0	0	437
16	449	12 313	0	219	258	208
17	609	978	171	0	0	13
18	67	654	0	0	5 322	8
19	411	388	159	0	2 621	63
20	292	353	32	1 342	440	272
21	306	623	0	1 098	12	29
22	544	72	7	0	27	27
23	18	115	0	0	0	0
24	54	0	0	0	0	0
25	121	78	0	0	28	142
26	5	0	0	0	0	0
27	49	447	58	673	105	51
28	57	658	111	786	116	112
29	11	10	0	0	0	0
30	65	369	202	0	26	93
31	42	218	1	235	109	167
32	69	623	24	2 887	53	189

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	1	2	3	4	5	6
33	11	0	0	6 104	0	1
34	287	52	0	861	106	14
35	451	488	0	0	584	303
36	123	724	0	343	217	111
37	5	0	525	0	0	4
38	27	0	29	0	0	0
39	13	1 557	0	28 158	5	75
40	33	18 733	0	0	0	0
41	8 352	1 666	67	1 238	2 729	281
42	0	0	0	0	0	0
43	65	131	0	663	153	103
44	526	284	2	94	13	5
45	0	0	0	0	0	0
46	50 033	7 534	459	24 703	3 951	1 130
47	5	40	0	0	0	22
48	760	842	109	21 081	1 338	1 068
49	0	0	0	0	0	0
50	39	327	0	0	18	102
51	189	1 159	0	0	184	135
52	813	12 666	209	17 158	542	793
53	0	0	0	0	375	0
54	0	0	0	0	0	0
55	95 435	11 805	1 110	59 141	4 442	480
56	117 278	28 908	85	25 779	3 549	3 306
57	17 520	49 407	4 095	154 770	19 223	13 840
58	125 053	3 745	422	26 679	8 498	6 224
59	5 167	4 247	322	28 198	2 777	1 538
190	265 018	86 307	4 925	235 426	34 047	24 909
200	643 793	251 256	8 661	445 436	135 701	81 360

BẢNG I/O NĂM 1989

theo giá cơ bản

INPUT-OUTPUT TABLE 1989

in basic prices

Triệu đồng - Million dongs

	7	8	9	10	11	12
1	20 629	3 171	11 766	9 567	5 518	7 574
2	11 822	584	3 204	965	900	2 464
3	95	22	44	0	0	0
4	61	0	83	455	35 471	0
5	127 990	8 691	62 287	985	1 346	2 077
6	47 866	22 987	41 324	76	165	107
7	59 603	1 400	8 121	253	1 025	876
8	10 703	59 202	3 493	95	166	151
9	30 355	3 293	34 814	7	0	586
10	2 853	772	4 756	6 037	749	4 046
11	5	4	11	105	5 284	951
12	3 523	293	3 298	78	243	25 571
13	514	153	381	123	527	206
14	250	35	126	26	8	79
15	1 277	4 874	6 105	1 758	1 207	5 153
16	10 687	2 517	12 224	8 994	7	5 795
17	883	219	382	216	52	285
18	972	219	559	107	208	118
19	1 161	129	617	84	565	56
20	27 851	1 030	2 513	596	105	175
21	1 633	555	596	64	42	349
22	1 052	649	891	67	48	61
23	643	106	104	32	44	39
24	31	3	51	3 621	0	8
25	119	65	49	21	106	25
26	64	42	7	0	0	5
27	1 324	92	494	5	7	204
28	911	144	572	12	6	208
29	110	0	27	0	0	1
30	697	106	304	23	71	160
31	851	206	184	4	1 366	148
32	6 179	374	1 017	0	0	10 196

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	7	8	9	10	11	12
33	379	0	136	0	0	5 557
34	2 629	209	987	227	135	2 105
35	2 376	507	2 197	587	0	632
36	5 267	183	1 090	870	908	1 560
37	59	203	26	0	0	24 106
38	28	0	4	0	0	558
39	797	0	172	18	6	108
40	1 134	24	1 171	0	0	8
41	5 307	471	1 928	357	1 101	1 105
42	0	0	0	0	0	0
43	797	143	299	40	18	361
44	476	273	255	16	54	199
45	0	0	0	0	0	0
46	13 156	2 100	6 394	614	1 704	2 519
47	170	48	37	0	0	20
48	6 951	1 079	2 046	938	354	2 970
49	0	0	0	0	0	0
50	472	61	119	0	6	127
51	2 827	579	724	4	1	509
52	10 966	1 184	4 237	634	88	1 746
53	10	0	49	0	0	0
54	0	0	0	0	0	0
55	9 075	1 590	4 928	513	557	3 014
56	31 769	8 986	17 814	1 699	11 309	5 348
57	184 823	29 380	101 410	4 547	5 874	28 617
58	40 581	42 820	38 668	1 218	2 119	13 776
59	14 515	3 573	5 406	1 671	1 145	9 239
190	271 688	84 758	163 299	9 136	20 447	56 980
200	707 277	205 347	390 503	48 330	80 615	172 862

BẢNG I/O NĂM 1989

theo giá cơ bản

INPUT-OUTPUT TABLE 1989

in basic prices

Triệu đồng - Million dongs

	13	14	15	16	17	18
1	1 491	2 043	3 215	1 280	31 805	3 450
2	652	734	41	1 431	35 286	9 867
3	0	0	0	196 0	9	75
4	0	0.	0	0	12 487	607
5	66	716	678	847	1 420	548
6	337	0	838	84	694	100
7	387	3 107	288	235	8 140	2 380
8	23	235	78	28	897	535
9	5 478	417	1 376	644	1 479	1 439
10	62 321	20 577	2 234	11 573	7 523	47
11	0	24	0	80	0	1
12	63	169	202	1 112	378	593
13	5 046	105	56	28	299	117
14	32	25 750	775	12	11	42
15	4 466	2 851	68 674	634	5	138
16	15 675	259	4 549	14 212	378	7 075
17	128	173	10	46	14 182	27 794
18	25	120	13	22	107	1 589
19	414	61	9	53	33 178	16 655
20	453	697	263	732	374	1 358
21	1 067	5 491	283	539	47 273	475
22	454	9 567	8	475	177	174
23	81	232	13	59	55	177
24	62	151	7	32	0	18
25	306	3 697	22	1 238	0	39
26	1	6	5	0	0	3
27	108	67	93	53	16	205
28	93	38	106	62	29	305
29	1	0	0	51	0	39
30	208	264	58	50	234	182
31	20 365	905	19	1 453	28	289
32	79	115	1 707	30	750	244

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	13	14	15	16	17	18
33	846	17	31	217	302	205
34	33	326	21	134	301	530
35	413	637	248	224	184	433
36	239	341	5 396	77	11 209	531
37	116	1 702	44	1 255	0	40
38	44	112	11	59	0	5 615
39	179	4	0	662	0	13 935
40	7	92	0	20	2 870	1 272
41	2 004	1 109	705	892	13 751	7 684
42	0	35	0	0	0	675
43	1 013	272	172	34	30	525
44	147	135	262	26	4 418	69
45	0	0	0	0	0	0
46	2 492	1 115	2 283	1 547	14 486	6 790
47	0	55	89	1	5	57
48	755	3 490	1 544	876	4 234	1 704
49	0	0	0	0	0	0
50	52	256	50	34	6	75
51	375	272	203	400	29	776
52	1 815	1 994	827	846	1 083	2 742
53	0	460	0	0	0	0
54	0	0	0	0	0	0
55	2 139	364	1 313	1 100	24 087	12 340
56	4 493	4 368	6 431	3 570	44 778	12 160
57	15 814	20 600	17 469	11 090	22 871	56 900
58	9 281	14 000	6 505	4 931	44 513	18 689
59	3 656	4 756	2 187	1 788	9 641	10 277
190	33 244	43 724	32 592	21 379	121 802	98 025
200	165 797	135 083	131 413	68 932	396 260	230 583

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	19	20	21	22	23	24
1	8 249	12 013	6 545	1 787	10 195	916
2	44 405	2 007	8 804	3 654	6 002	1 304
3	434	32	0	19	0	0
4	62	0	221	2 573	0	0
5	15 714	1 533	1 771	2 284	1 182	2 355
6	783	339	473	869	387	183
7	4 111	6 367	11 679	116	3 632	22 898
8	463	904	776	1 690	838	1 018
9	5 663	10 001	4 966	1 782	2 223	1 862
10	2 791	3 289	5 249	5 148	294	2 028
11	0	1 249	1	2	166	0
12	1 585	7 388	992	146	3 261	261
13	318	627	65	10	178	138
14	337	199	44	19	43	284
15	147	3 907	3 222	307	8 673	12 540
16	1 330	11 072	5 138	1 522	2 839	1 589
17	17 614	468	343	196	174	273
18	17 069	268	126	170	114	114
19	60 087	3 636	484	1 445	134	142
20	2 315	224 248	320	463	872	3 382
21	865	3 350	40 021	936	575	941
22	350	3 801	285	6 797	815	319
23	309	680	762	20	188 272	32
24	26	17	1	1	329	12 977
25	173	209	245	21	2 268	31
26	1	52	0	9	82	5
27	619	630	111	87	1 731	179
28	722	887	43	91	3 117	121
29	2	101	413	54	1 473	326
30	471	431	100	104	1 868	3 166
31	838	612	1 021	81	4 509	23 230
32	948	2 933	407	33	857	477

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	19	20	21	22	23	24
33	191	173	175	117	960	597
34	191	1 985	89	177	205	62
35	542	731	241	495	1 486	732
36	1 267	7 406	1 334	50	806	1 653
37	95	2 363	110	18	97 367	401
38	110	144	6	584	1 731	39
39	6 405	64 781	24 641	2 098	3 345	531
40	1 056	3 202	113	1 477	1 900	158
41	21 639	3 596	2 352	1 179	3 049	1 619
42	21	676	0	30	0	0
43	413	698	193	51	198	63
44	78	529	4 959	38	1 305	134
45	0	0	0	0	0	0
46	12 497	4 595	3 142	2 290	4 794	39 348
47	473	165	69	2	422	31
48	4 481	6 260	1 982	1 314	2 023	3 375
49	0	0	0	0	0	0
50	223	176	189	675	41	138
51	1 021	2 055	365	414	304	393
52	4 423	5 415	1 482	1 358	970	5 082
53	0	1 216	-0	0	0	0
54	0	0	0	0	0	0
55	14 938	7 248	2 776	4 115	7 240	93 823
56	7 377	16 309	9 738	6 757	13 781	20 325
57	126 770	249 053	22 356	20 133	57 467	238 319
58	9 194	40 925	12 181	3 196	15 063	15 737
59	12 219	24 263	9 848	2 328	21 095	7 528
190	155 560	330 550	54 124	32 414	107 407	281 909
200	414 425	747 212	192 969	81 333	482 653	523 182

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	25	26	27	28	29	30
1	1 952	2 576	2 639	1 243	4 172	10 125
2	2 401	1 387	1 926	525	1 956	10 921
3	86	0	0	4	0	315
4	0	0	0	0	0	0
5	795	27 540	2	187	189	4 495
6	336	343	1 060	157	29	13 513
7	963	621	687	4 627	3 020	6 255
8	267	155	23	628	366	539
9	1 004	18	2 299	638	5 888	7 849
10	1 434	235	0	1 635	93	7 208
11	24	709	180	3	9	25
12	983	193	163	143	584	6 971
13	184	13	10	69	496	591
14	22	55	14	3	130	53
15	213	1 413	4 644	24 092	2 973	3 690
16	1 001	172	2 710	12 761	452	13 506
17	262	110	0	150	65	443
18	170	58	0	53	3	554
19	206	175	0	77	229	1 083
20	277	94	4 238	195	1 763	6 170
21	265	189	2 349	71 362	4 469	4 030
22	252	17	28	124	2 319	11 425
23	52	0	207	27	1 224	39 001
24	1 923	0	0	0	335 968	254
25	52 151	5 344	126	352	432	87 641
26	1	7 214	3	0	522	252
27	25	18	13 472	55	402	10 410
28	37	18	98	500	233	222
29	20	0	0	5	5 202	127
30	67	12	129	244	3 797	9 718
31	73	1	8 841	659	3 971	96 830
32	54	856	53	134	582	301

BẢNG I/O NĂM 1989

theo giá cơ bản

INPUT-OUTPUT TABLE 1989

in basic prices

Triệu đồng - Million dongs

	25	26	27	28	29	30
33	124	19	279	403	1 006	8 625
34	79	136	0	1 182	116	254
35	424	713	29	690	1 160	1 469
36	493	162	991	5 833	924	2 320
37	54 960	28 090	116 261	134 540	8 815	43 036
38	1 219	0	338	1	524	8 066
39	334	0	904	60	1 533	3 088
40	1 219	0	1	188	716	14 470
41	1 461	1 075	2 411	4 440	7 107	12 497
42	0	0	0	0	0	45
43	67	82	145	51	306	137
44	39	35	487	16 975	88	1 088
45	0	0	0	0	0	0
46	3 194	1 571	1 859	2 969	4 015	3 293
47	27	0	3	0	29	15
48	727	944	2 913	1 116	4 304	2 131
49	0	0	0	0	0	0
50	156	113	0	37	40	63
51	407	523	1	180	501	365
52	456	397	585	1 145	2 308	2 152
53	0	0	0	0	0	0
54	0	0	0	0	0	0
55	6 055	1 774	1 335	1 954	6 434	7 481
56	13 850	4 869	3 032	24 765	20 487	39 864
57	27 862	21 918	99 779	20 796	57 228	128 030
58	8 731	8 307	11 119	43 640	27 086	44 844
59	9 677	5 841	21 963	28 353	10 430	22 423
190	60 119	40 936	135 892	117 555	115 231	235 161
200	198 790	126 105	310 339	409 967	536 699	700 268

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	31	32	33	34	35	36
1	8 763	36 842	1 446	4 865	24 762	11 308
2	13 058	7 433	465	904	3	307
3	0	0	0	1	0	38
4	0	0	0	0	0	0
5	491	1 439	49	1 300	733	1 350
6	27 948	310	31	366	36	18 295
7	5 542	7 711	580	1 571	38	1 729
8	616	4 354	113	523	67[illegible]	370
9	3 358	4 334	1 050	2 959	210	696
10	1 645	15 505	740	4 883	3 573	1 323
11	6	54	18	88	0	27
12	645	1 903	676	9 272	59	356
13	321	615	156	261	2	189
14	69	357	139	112	6	1 239
15	4 934	4 600	4 458	5 285	42	1 653
16	2 946	20 295	1 926	2 851	246	9 11[illegible]
17	710	740	98	184	21	500
18	964	345	162	73	37	144
19	1 818	1 359	72	218	109	192
20	2 195	6 268	716	2 365	12	40 434
21	6 252	5 715	603	2 827	46	37 169
22	631	325	86	287	9	681
23	21 959	2 140	32	4 172	1	9 360
24	471	1 750	9	593	1	5 527
25	70 321	426	75	111	0	336
26	153	55	9	11	0	9
27	19 056	350	199	317	14	158
28	138	221	228	246	10	192
29	264	8	9	41	0	6 639
30	129	334	301	241	7	94
31	140 126	631	156	555	8	1 729
32	136	382 128	55 971	163 454	35	12 062

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	31	32	33	34	35	36
33	17 772	7 054	37 559	2 413	0	134
34	292	2 304	1 591	23 097	13	789
35	236	2 607	329	996	385	684
36	1 614	300	438	5 057	40	10 415
37	37 481	34 599	5 079	2 291	0	9 189
38	16 605	6 207	114	1 241	0	2 793
39	4 824	265	219	125	0	2 910
40	2 418	2 512	593	3 446	61	2 210
41	8 805	4 214	446	1 387	118	4 005
42	0	79	0	0	0	16
43	251	244	194	275	42	503
44	247	4 355	344	2 034	2	2 470
45	0	0	0	0	0	58
46	6 225	6 222	876	1 939	98	1 895
47	10	28	15	35	0	4 053
48	2 859	5 135	2 713	2 809	134	1 596
49	0	0	0	0	0	0
50	99	922	378	376	11	710
51	362	1 440	925	1 745	33	1 007
52	2 489	6 056	7 220	3 680	37	2 415
53	0	0	0	0	0	775
54	0	0	0	0	0	0
55	9 075	9 528	698	2 854	59	2 829
56	15 659	39 627	2 424	16 347	8 062	16 576
57	113 958	183 830	81 399	114 724	4 189	67 267
58	21 830	32 297	9 404	22 895	27 750	21 978
59	15 804	15 121	5 832	10 825	1 164	9 87[illegible]
190	167 250	270 876	99 060	164 791	41 165	115 700
200	614 579	873 516	229 666	431 530	72 936	330 411

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	37	38	39	40	41	42
1	91 406	5 294	4 701	15 462	2 003	2 610
2	336	474	329	16 047	1 352	234
3	0	0	0	3 915	0	0
4	0	2	0	2 442	0	0
5	986	433	1 812	130 171	4 702	6 088
6	209	83	948	11 856	148	96
7	2 007	2 247	27 003	15 310	13 335	21 328
8	109	2 372	955	19 739	597	8 240
9	74 499	4 321	3 976	39 676	38 480	61 040
10	2 124	52	7	3 079	490	4 308
11	1 089 156	3 927	35 662	496	257	0
12	5 900	399	7 876	3 454	11 902	48 961
13	50	680	235	446	148	429
14	266	4 073	1 625	1 188	113	249
15	256	1 137	716	25 464	641	59
16	219	50	128	21 249	3 589	132
17	1 872	821	449	179 974	361	834
18	917	1 420	590	164 257	413	582
19	2 316	1 500	388	220 844	1 391	213
20	5 234	5 682	2 026	76 254	2 379	1 652
21	278	1 146	1 363	11 399	518	542
22	1 241	981	391	23 889	373	128
23	640	21 630	2 251	10 557	1 128	15
24	11	31	53	2 420	129	60
25	19	145	103	744	397	0
26	0	12	19	690	36	0
27	115	55	460	5 240	364	56
28	166	91	1 206	5 799	436	51
29	0	2 895	0	164	3	0
30	236	86	1 684	6 996	535	109
31	224	1 288	463	8 089	424	28
32	620	417	868	1 786	842	543

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	37	38	39	40	41	42
33	20	239	0	35	326	9
34	1 282	100	1 633	12 408	680	220
35	938	1 457	2	356	766	704
36	96	35 406	865	14 756	351	65
37	971 439	144 256	28 608	4 211	3 285	1
38	640 223	1 081 700	325	9 992	75	8
39	519	142	52 669	9 268	125	0
40	9 485	2 114	10 573	1 970	802	263
41	43 223	6 467	3 025	77 946	2 245	3 448
42	13	6	57	243	2	0
43	384	291	960	3 487	888	240
44	970	43	557	1 427	638	681
45	0	0	0	0	0	0
46	45 626	6 838	21 384	49 811	41 428	47 981
47	20 265	60	222	1 249	84	785
48	1 471	4 272	18 782	15 334	2 079	2 905
49	0	0	0	0	0	0
50	370	44	2 436	1 267	212	314
51	3 608	446	3 861	7 483	573	92
52	5 384	878	11 323	18 866	3 476	523
53	0	0	3	0	1	0
54	0	0	0	0	0	0
55	55 946	12 870	46 417	74 130	96 436	107 366
56	100 644	15 464	119 945	49 503	80 440	28 166
57	6 210 594	447 743	422 614	719 967	188 971	68 373
58	34 425	1 404 505	231 036	96 236	52 887	5 730
59	16 310	29 973	25 300	75 353	6 173	8 940
190	6 361 972	1 897 685	798 896	941 058	326 470	111 210
200	9 444 745	3 258 302	1 100 904	2 274 312	568 430	435 405

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	43	44	45	46	47	48
1	790	22 217	4 856	6 662	479	9
2	0	3 552	3 280	7 456	251	4
3	0	1	0	22	0	0
4	0	0	0	1	0	0
5	0	536	22	2 147	2	0
6	989	58	14	276	189	0
7	9 260	2 123	460	6 275	127	979
8	10 416	2 481	611	804	139	54
9	728	7 625	1 206	2 916	95	4 354
10	139	1 238	34	219	630	0
11	0	259	3	143	0	0
12	103	2 905	133	3 832	74	2
13	4	1 511	1 196	362	33	0
14	0	3 830	76	697	2	0
15	0	6 411	652	1 926	5	3
16	0	1 979	142	1 003	1 382	10
17	192	1 919	51	2 196	3	1
18	103	1 355	126	1 364	0	2
19	25	1 089	200	3 688	25	2
20	35	10 524	1 942	2 673	32	28
21	683	31 172	1 258	7 840	8 084	403
22	36	4 964	12 270	376	17	267
23	9	13 291	18 470	242	0	13 003
24	0	3 770	2 133	5	0	0
25	13	16 481	14 084	135	0	1
26	0	3 947	2 940	44	0	6
27	15	20 471	7 857	702	3	2 253
28	13	6 692	1 479	570	3	2 615
29	0	1 420	561	34	4	0
30	24	5 768	9 361	1 046	5	7 396
31	0	86 282	70 861	392	1	14 652
32	2 563	6 285	401	1 159	31	4 331

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	43	44	45	46	47	48
33	284	3 770	189	1 203	7	0
34	213	594	112	398	0	22
35	34	5 435	2 409	1 832	79	1 200
36	0	4 483	883	677	3 295	504
37	0	14 602	12 602	281	0	0
38	0	19 011	26 689	701	2	2
39	0	3 206	2 612	373	0	0
40	0	14 089	1 679	26 129	0	7
41	204	7 013	6 255	2 860	439	2 382
42	0	1	0	155	0	0
43	917	4 063	335	1 090	304	2 184
44	103	444	1 121	1 762	224	39
45	0	0	0	41	0	0
46	1 860	10 113	1 436	4 770	101	4 030
47	0	884	409	92	14 512	2
48	6	83 965	5 421	9 743	754	637
49	0	0	0	0	0	0
50	42	3 834	623	1 154	30	5
51	769	8 587	1 129	913	197	210
52	1 596	48 884	4 937	33 065	2 181	52
53	0	14 465	1 212	1	0	4 823
54	0	0	0	0	0	0
55	2 694	21 914	1 796	7 870	72	9 516
56	17 250	71 962	18 763	61 089	1 724	34 797
57	36 436	780 807	225 041	116 066	207 722	63 387
58	24 785	702 608	132 406	331 031	5 743	60 315
59	802	95 283	16 839	12 766	1 230	5 195
190	79 272	1 650 160	393 050	520 952	216 417	163 694
200	114 108	2 188 217	623 316	673 670	250 229	239 686

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	49	50	51	52	53	54
1	13 243	9 900	18 067	12 599	10 3[illegible]2	4 805
2	145	494	2 070	1 255	5 894	597
3	0	156	0	0	1	0
4	0	0	0	0	581	0
5	4 866	16 618	2 526	313	48 337	33
6	3 407	9 174	41	30	19 990	0
7	14 693	4 538	9 939	1 180	36 017	6 293
8	2 244	377	13 414	2 737	38 189	5 879
9	20 582	6 052	7 411	3 363	209 266	3 484
10	3 031	35 285	2 949	1 115	30 059	11
11	2	592	2 187	7	209	0
12	2 406	436	2 355	779	34 861	188
13	387	117	4 124	13 330	2 643	648
14	556	32	56 771	176	1 472	181
15	172	221	5 134	1 350	5 992	235
16	318	1 520	8 925	9 773	34 896	160
17	1 052	46 069	4 496	322	45	272
18	996	359	1 742	208	194	353
19	649	6 330	3 698	242	96	55
20	34 196	415	9 177	1 683	7 056	918
21	71 712	1 292	13 148	4 645	2 310	1 461
22	1 082	128	2 298	2 176	3 316	751
23	555	92	2 583	187	1 211	265
24	18	6	2 039	770	0	63
25	255	52	1 562	352	120	1 822
26	160	2	745	106	0	437
27	3 372	320	1 870	636	929	932
28	3 408	278	835	1 947	1 012	572
29	6 902	0	430	164	318	22
30	3 697	80	2 198	7 225	2	788
31	10 785	205	8 021	927	3 431	1 556
32	1 507	64	23 900	694	217	236

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	49	50	51	52	53	54
33	722	0	1 072	122	3 373	62
34	2 486	16	1 167	2 756	2 485	434
35	3 142	2 148	540	881	252	891
36	23 830	1 155	17 608	7 139	437	2 352
37	1 319	824	2 628	1 344	44	43 063
38	2 152	10	2 809	2 846	113	263
39	36	0	84	443	2 370	25
40	2 269	489	15 038	65 075	984	371
41	3 716	6 335	4 193	1 437	5 464	1 127
42	0	0	0	0	0	0
43	24 021	1 428	8 061	413	3	5 890
44	70	4	3 322	2 040	1 520	49
45	181	0	0	0	0	0
46	8 966	2 027	11 097	3 032	21 043	2 052
47	1 074	6	27 136	989	280	207
48	511	170	289	968	295	556
49	0	0	0	0	0	0
50	67 909	7 477	57 507	141	40	15 186
51	86 090	3 472	49 446	1 127	451	1 798
52	0	3 455	6 482	9 553	1 229	8 132
53	170 437	18 621	73 428	29	0	35 341
54	0	0	0	0	0	0
55	16 945	1	20 259	3 654	13 605	2 445
56	151 430	25 070	156 619	43 044	49 362	20 486
57	720 943	151 017	850 436	247 755	520 258	66 971
58	7 041	17 691	250 091	1 243 317	65 915	5 252
59	29 859	10 267	15 513	7 219	12 559	12 115
190	909 273	204 045	1 272 659	1 541 334	648 133	104 824
200	1 531 544	392 885	1 789 480	1 715 614	1 201 157	258 136

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	101	102	103	104	105	106	Tổng số Total
1	87 096	0	0	0	0	0	643 793
2	59 399	0	-107 771	0	62 899	-46 625	251 256
3	0	0	-19 008	0	11 011	0	8 661
4	0	0	-50 434	0	440 822	0	445 436
5	0	0	-287 138	0	445 232	-571 658	135 701
6	10 805	0	36 842	0	256 770	-495 689	81 360
7	549 007	0	308 753	478 104	27 143	-1 151 238	707 277
8	253 280	0	180 544	98 033	19 306	-551 161	205 347
9	868 399	0	27 219	693	21 882	-1 181 236	390 503
10	0	0	-22 695	0	20	-233 759	48 330
11	0	0	-35 607	0	0	-1 025 006	80 615
12	47 981	0	-3 969	0	1 483	-44 564	172 862
13	151 905	0	-1 710	0	0	-22 729	165 797
14	398 815	0	1 413	0	15 067	-382 634	135 083
15	199 188	0	3 001	0	43 832	-349 679	131 413
16	0	0	-129 796	0	111	-75 155	68 932
17	0	0	164 858	0	4 764	-81 877	396 260
18	0	0	26 785	0	0	-1 925	230 583
19	0	0	52 576	0	12 104	-21 096	414 425
20	61 708	0	15 390	15	179 546	-6 554	747 212
21	27 814	0	-189 831	0	520	-47 189	192 969
22	119 599	0	-130 377	0	0	-5 425	81 333
23	169 300	0	7 719	0	0	-50 466	482 653
24	144 639	0	1 424	0	1 724	0	523 182
25	85 214	0	23 956	0	14 596	-187 578	198 790
26	34 420	0	2 010	0	72 016	0	126 105
27	166 665	0	3 660	0	43 173	-693	310 339
28	409 784	0	2 185	0	185	-40 810	409 967
29	85 354	0	5 273	0	421 496	-3 277	536 699
30	631 260	0	1 166	0	13 286	-17 005	700 268
31	286 892	0	20 254	0	68 548	-279 206	614 579
32	673 483	0	168 287	0	138 672	-799 347	873 516

BẢNG I/O NĂM 1989
theo giá cơ bản

INPUT-OUTPUT TABLE 1989
in basic prices

Triệu đồng - Million dongs

	101	102	103	104	105	106	Total
33	106 946	0	-3 197	0	114 833	-91 757	229 666
34	168 291	0	2 131	0	429 023	-236 460	431 530
35	25 660	0	0	0	0	0	72 936
36	22 145	0	-126 577	0	319 874	-69 207	330 411
37	6 276 214	0	19 563	0	1 511 182	-193 395	9 444 745
38	1 247 502	0	100 157	39 642	46 160	-5 291	3 258 302
39	541 741	0	0	24 843	310 259	-9 465	1 100 904
40	310 535	0	0	1 684 851	65 974	0	2 274 312
41	134 850	0	34 279	7 635	81 640	0	568 430
42	402 120	0	0	0	31 231	0	435 405
43	22 802	0	0	0	34 989	-7 545	114 108
44	1 660 226	0	3 837	1 785	464 589	0	2 188 217
45	536 315	0	0	0	86 721	0	623 316
46	0	0	95 345	37 667	13 232	0	673 670
47	15 893	0	-504	0	172 684	-12 005	250 229
48	0	0	0	0	6 799	-14 244	239 686
49	0	1 531 544	0	0	0	0	1 531 544
50	1 491	226 712	0	0	0	0	392 885
51	1 408 714	186 017	0	0	4 083	0	1 789 480
52	1 267 508	0	0	0	180 031	0	1 715 614
53	879 912	0	0	0	0	0	1 201 157
54	0	258 137	0	0	0	0	258 136
55	166 494	0	179 754	0	0	-1 254 166	0
56	0	0	0	0	0	0	1 657 238
57	0	0	0	0	0	0	14 435 928
58	0	0	0	0	0	0	5 454 909
59	1 436 881	1 306	52 330	32 298	510 263	0	2 759 516
190	1 436 881	1 306	52 330	32 298	510 263	0	
200	22 153 557	2 204 405	411 200	2 405 771	6 699 776	-9 567 116	

APPENDIX 5

GRIMP outcomes of the 1989, three-sector input-output table for Vietnam

'ransactions Table: input-output table for vietnam, ($m)

Sector	1	2	3	TOTAL I	H-Hold	FD 2
1	2933924	1186555	149739	4270218	8210096	2054954
2	1819768	6586335	2531912	10938217	6193332	5782935
3	232774	795349	1124915	2153038	6313938	3286373
TOTAL I	4986466	8568440	3806566	17361474	20717368	11124262
H-Hold	7319270	3082698	4033961	14435929	0	0
PI 2	2229343	11263450	3912866	17405658	1436881	596197
TOTAL P	9548613	14346148	7946827	31841536	1436881	596197
TOTAL	14535079	22914588	11753393	49303060	22154248	11720459
Employ.	20894300	3682700	4362700	28939700		

Transactions Table: input-output table for vietnam, ($m)

Sector	TOTAL F	TOTAL
1	10265050	14535268
2	11976267	22914484
3	9600311	11753349
TOTAL I	31841630	49203104
H-Hold	0	1 [illegible]5929
PI 2	2033078	19438736
TOTAL P	2033078	33874664
TOTAL	33874708	83077768

)irect Coefficients Table: input-output table for vietnam

Sector	1	2	3	TOTAL I	H-Hold	FD 2
1	0.2019	0.0518	0.0127	0.2664	0.3706	0.1753
2	0.1252	0.2874	0.2154	0.6281	0.2796	0.4934
3	0.0160	0.0347	0.0957	0.1464	0.2850	0.2804
TOTAL I	0.3431	0.3739	0.3239	1.0409	0.9351	0.9491
H-Hold	0.5036	0.1345	0.3432	0.9813	0.0000	0.0000
PI 2	0.1534	0.4915	0.3329	0.9778	0.0649	0.0509
TOTAL P	0.6569	0.6261	0.6761	1.9591	0.0649	0.0509
TOTAL	1.0000	1.0000	1.0000	3.0000	1.0000	1.0000
Employ.	1.4375	0.1607	0.3712	1.9694		

)irect Coefficients Table: input-output table for vietnam

Sector	TOTAL F	TOTAL
1	0.5459	0.8123
2	0.7730	1.4010
3	0.5654	0.7118
TOTAL I	1.8843	2.9251
H-Hold	0.0000	0.9813
PI 2	0.1157	1.0936
TOTAL P	0.1157	2.0749
TOTAL	2.0000	5.0000

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit22.TBL

pen Inverse Matrix: input-output table for vietnam, ($m) Page 1

Sector	1	2	3
1	1.2685	0.0941	0.0403
2	0.2324	1.4371	0.3456
3	0.0314	0.0568	1.1198

;RIMP -- Micro Version 5.00.00 Date: 10-06-1995
(UN I.D.: Filename: a:vit22.TBL

:losed Inverse Matrix: input-output table for Vietnam, ($m) Page 1

Sector	1	2	3	H-Hold
1	1.9013	0.3360	0.4596	0.9295
2	0.9630	1.7164	0.8298	1.0732
3	0.4633	0.2219	1.4060	0.6545
H-Hold	1.2460	0.4763	0.8257	1.8302

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I.D.:

Date: 10-06-1995
Filename: a:vit22.TBL

AL OUTPUT MULTIPLIERS: input-output table for vietnam, ($m)

TOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	TYPE 1A	TYPE 1B	TYPE 2A	TYPE 2
	1.0000	0.3431	0.1892	1.7953	3.3276	1.3431	1.5322	3.3276	2.32
	1.0000	0.3739	0.2141	0.6863	2.2744	1.3739	1.5881	2.2744	1.274
	1.0000	0.3239	0.1819	1.1897	2.6954	1.3239	1.5057	2.6954	1.695

MP -- Micro Version 5.00.00
I.D.:

Date: 10-06-1995
Filename: a:vit22.TBL

AL INCOME MULTIPLIERS: input-output table for vietnam, ($m)

TOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	TYPE 1A	TYPE 1B	TYPE 2A	TYPE 2
	0.5036	0.1240	0.0532	0.5652	1.2460	1.2462	1.3519	2.4743	1.474
	0.1345	0.0767	0.0491	0.2161	0.4763	1.5698	1.9345	3.5405	2.540
	0.3432	0.0682	0.0397	0.3745	0.8257	1.1988	1.3144	2.4057	1.405

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I.D.:

Date: 10-06-1995
Filename: a:vit22.TBL

AL EMPLOYMENT MULTIPLIERS (/$m): input-output table for vietnam, ($m)

CTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	TYPE 1A	TYPE 1B	TYPE 2A	TYPE 2
	1.4375	0.3162	0.1187	1.1874	3.0599	1.2200	1.3026	2.1286	1.128
	0.1607	0.1335	0.0932	0.4539	0.8413	1.8308	2.4104	5.2348	4.234
	0.3712	0.0885	0.0695	0.7869	1.3160	1.2383	1.4255	3.5454	2.545

APPENDIX 6

Industrial sectors in the eleven-sector input-output table

SECTOR CLASSIFICATION OF INPUT-OUTPUT TABLES FOR VIETNAM, 1989

11-Sector Input-Output Table	55-Sector Input-Output Table
1. Agriculture, Fishing and Forestry	24. Fishing 37. Agriculture 38. Animal husbandry 39. Forestry
2. Mining	02. Coal 03. Mineral mining 04. Other mining
3. Manufacturing	05. Manufacture of ferrous metals 06. Manufacture of non-ferrous metals 07. Equipment, machinery 08. Electrical and electronic products 09. Other metallic products 10. Chemical products 11. Fertiliser, insecticide 12. Rubber, rubber products 13. Soap and cleaning materials 14. Pharmaceuticals 15. Plastic, plastic products 16. Other chemical products 17. Cement 18. Bricks, tiles 19. Other construction materials 20. Wood processing, wood products 21. Paper, paper products 22. Ceramics, glass, porcelain 23. Milling and grain products 25. Sugar 26. Vegetable, fruit canning 27. Tea, coffee processing 28. Tobacco, cigarettes 29. Aquatic products 30. Alcoholic, other beverages 31. Other food stuff 32. Manufacture of textiles 33. Carpets and rugs 34. Leather, bleaching products 36. Other industry 47. Other materials 55. Petroleum and natural gas
4. Electricity and Water	01. Electricity 35. Water

5. Construction	40. Construction
6. Wholesale and Retail Trade	44. Trade 46. Material supply
7. Transport and Communication	41. Freight transport 42. Passenger transport 43. Communication
8. Finance and Business Services	48. Finance, insurance
9. Ownership of Dwelling	52. Dwellings
10. Public Administration	49. Public administration, defence 50. Science, research 54. Other non-profit services
11. Recreation, Personal and Other Services	45. Restaurants 51. Culture, health, education, sport 53. Personal repairs

Other notes:

Horizontal lines:

H-Hold: Household Consumption	57. Compensation of employees
FD2: Final Demand 2	56. Depreciation
FD3: Final Demand 3	58. Operating surplus
FD4: Final Demand 4	59. Indirect taxes
FD5: Final Demand 5	106. Import

Vertical lines:

PI1: Primary Input 1	101. Private final consumption expenditure
PI2: Primary Input 2	102. Government final consumption expenditure
PI3: Primary Input 3	103. Change in stocks
PI4: Primary Input 4	104. Fixed capital formation
PI5: Primary Input 5	105. Export

APPENDIX 7

GRIMP outcomes of the 1989, eleven-sector input-output table for Vietnam

Transactions Table: input-output table for vietnam, ($m)

Sector	1	2	3	4	5	6
1	2933924	30269	1130295	100	25891	3884
2	2445	8194	242716	41249	22404	1101
3	1689547	203789	4299367	244296	1091442	32682
4	105446	27318	263472	63554	15818	3614
5	22330	18733	42119	94	1970	4082
6	114900	33076	163701	50659	51238	1708
7	56008	3765	129175	8577	81596	153
8	27900	22032	73428	894	15334	937
9	22667	30033	74229	850	18866	819
10	2988	327	5606	50	1267	49
11	8311	1159	21782	222	7483	240
TOTAL I	4986467	378695	6445889	410545	1333309	6907
H-Hold	7319270	208272	2132750	21709	719967	8963
PI 2	256378	54772	412766	125340	49503	1330
PI 3	1685703	30846	590256	152803	96236	10336
PI 4	79111	32767	299300	6331	75353	10804
PI 5	208151	46625	9290551	0	0	
TOTAL P	9548612	373282	12725623	306183	941059	217111
TOTAL	14535079	751977	19171512	716728	2274368	28618

Employ.

Transactions Table: input-output table for vietnam, ($m)

Sector	7	8	9	10	11	TOTAL I
1	3683	2	5403	47779	54023	4270218
2	1586	4	1255	1392	13806	346063
3	474517	60406	70327	402927	911785	9775227
4	6907	1209	13480	34129	36496	603975
5	1065	7	65075	3129	17601	212951
6	92696	4069	5072	13168	39539	585207
7	7944	4566	1850	42517	24371	375743
8	4990	637	968	1237	6005	247133
9	5595	52	9553	11637	12648	268079
10	568	5	141	90572	58170	164682
11	1435	5033	1156	315940	125666	512194
TOTAL I	600986	75990	174280	964427	1300110	17361462
H-Hold	291780	63387	247755	938931	1595735	14435929
PI 2	125856	34797	43044	196986	224744	1657237
PI 3	83402	60315	1243317	29984	448412	5454913
PI 4	15915	5195	7219	52241	44911	726392
PI 5	7545	14244	0	0	0	9567116
TOTAL P	524498	177938	1541335	1218142	2313802	31841586
TOTAL	1125484	253928	1715615	2182569	3613912	49203048

Employ.

Transactions Table: input-output table for vietnam, ($m)

Sector	H-Hold	FD 2	FD 3	FD 4	FD 5	TOTAL F
1	8210096	0	121144	64485	1869325	10265050
2	59399	0	-168213	0	514732	405918
3	5710642	0	272375	577050	2836166	9396233
4	112756	0	0	0	0	112756
5	310535	0	0	1684851	65974	2061360
6	1660226	0	99182	39452	477821	2276681
7	559772	0	34379	7635	147860	749646
8	0	0	0	0	6799	6799
9	1267508	0	0	0	180031	1447539
10	1491	2016393	0	0	0	2017884
11	2824941	186017	0	0	90804	3101762
TOTAL I	20717364	2202410	358867	2373473	6189512	31841626
H-Hold	0	0	0	0	0	0
PI 2	0	0	0	0	0	0
PI 3	0	0	0	0	0	0
PI 4	1436881	1306	52330	32298	510263	2033078
PI 5	0	0	0	0	0	0
TOTAL P	1436881	1306	52330	32298	510263	2033078
TOTAL	22154244	2203716	411197	2405771	6699775	33874704

Transactions Table: input-output table for vietnam, ($m)

Sector	TOTAL
1	14535268
2	751981
3	19171460
4	716731
5	2274311
6	2861888
7	1125389
8	253932
9	1715618
10	2182566
11	3613956
TOTAL I	49203088
H-Hold	14435929
PI 2	1657237
PI 3	5454913
PI 4	2759470
PI 5	9567116
TOTAL P	33874664
TOTAL	83077752

Direct Coefficients Table: input-output table for vietnam

Sector	1	2	3	4	5	6
1	0.2019	0.0403	0.0590	0.0001	0.0114	0.0136
2	0.0002	0.0109	0.0127	0.0576	0.0099	0.0038
3	0.1162	0.2710	0.2243	0.3408	0.4799	0.1142
4	0.0073	0.0363	0.0137	0.0887	0.0070	0.0126
5	0.0015	0.0249	0.0022	0.0001	0.0009	0.0143
6	0.0079	0.0440	0.0085	0.0707	0.0225	0.0060
7	0.0039	0.0050	0.0067	0.0120	0.0359	0.0054
8	0.0019	0.0293	0.0038	0.0012	0.0067	0.0327
9	0.0016	0.0399	0.0039	0.0012	0.0083	0.0286
10	0.0002	0.0004	0.0003	0.0001	0.0006	0.0017
11	0.0006	0.0015	0.0011	0.0003	0.0033	0.0084
TOTAL I	0.3431	0.5036	0.3362	0.5728	0.5862	0.2414
H-Hold	0.5036	0.2770	0.1112	0.0303	0.3166	0.3132
PI 2	0.0176	0.0728	0.0215	0.1749	0.0218	0.0465
PI 3	0.1160	0.0410	0.0308	0.2132	0.0423	0.3612
PI 4	0.0054	0.0436	0.0156	0.0088	0.0331	0.0378
PI 5	0.0143	0.0620	0.4846	0.0000	0.0000	0.0000
TOTAL P	0.6569	0.4964	0.6638	0.4272	0.4138	0.7586
TOTAL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Employ.

Direct Coefficients Table: input-output table for vietnam

Sector	7	8	9	10	11	TOTAL I
1	0.0033	0.0000	0.0031	0.0219	0.0149	0.3694
2	0.0014	0.0000	0.0007	0.0006	0.0038	0.1016
3	0.4216	0.2379	0.0410	0.1846	0.2523	2.6838
4	0.0061	0.0048	0.0079	0.0156	0.0101	0.2101
5	0.0009	0.0000	0.0379	0.0014	0.0049	0.0891
6	0.0824	0.0160	0.0030	0.0060	0.0109	0.2779
7	0.0071	0.0180	0.0011	0.0195	0.0067	0.1212
8	0.0044	0.0025	0.0006	0.0006	0.0017	0.0855
9	0.0050	0.0002	0.0056	0.0053	0.0035	0.1031
10	0.0005	0.0000	0.0001	0.0415	0.0161	0.0615
11	0.0013	0.0198	0.0007	0.1448	0.0348	0.2165
TOTAL I	0.5340	0.2993	0.1016	0.4419	0.3598	4.3197
H-Hold	0.2592	0.2496	0.1444	0.4302	0.4416	3.0769
PI 2	0.1118	0.1370	0.0251	0.0903	0.0622	0.7815
PI 3	0.0741	0.2375	0.7247	0.0137	0.1241	1.9786
PI 4	0.0141	0.0205	0.0042	0.0239	0.0124	0.2195
PI 5	0.0067	0.0561	0.0000	0.0000	0.0000	0.6237
TOTAL P	0.4660	0.7007	0.8984	0.5581	0.6402	6.6803
TOTAL	1.0000	1.0000	1.0000	1.0000	1.0000	11.0000

Employ.

Direct Coefficients Table: input-output table for vietnam

Sector	H-Hold	FD 2	FD 3	FD 4	FD 5	TOTAL F
1	0.3706	0.0000	0.2946	0.0268	0.2790	0.9710
2	0.0027	0.0000	-0.4091	0.0000	0.0768	-0.3296
3	0.2578	0.0000	0.6624	0.2399	0.4233	1.5833
4	0.0051	0.0000	0.0000	0.0000	0.0000	0.0051
5	0.0140	0.0000	0.0000	0.7003	0.0098	0.7242
6	0.0749	0.0000	0.2412	0.0164	0.0713	0.4039
7	0.0253	0.0000	0.0836	0.0032	0.0221	0.1341
8	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010
9	0.0572	0.0000	0.0000	0.0000	0.0269	0.0841
10	0.0001	0.9150	0.0000	0.0000	0.0000	0.9151
11	0.1275	0.0844	0.0000	0.0000	0.0136	0.2255
TOTAL I	0.9351	0.9994	0.8727	0.9866	0.9238	4.7177
H-Hold	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PI 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PI 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PI 4	0.0649	0.0006	0.1273	0.0134	0.0762	0.2823
PI 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TOTAL P	0.0649	0.0006	0.1273	0.0134	0.0762	0.2823
TOTAL	1.0000	1.0000	1.0000	1.0000	1.0000	5.0000

irect Coefficients Table: input-output table for vietnam

Sector	TOTAL
1	1.3404
2	-0.2280
3	4.2672
4	0.2152
5	0.8133
6	0.6818
7	0.2553
8	0.0865
9	0.1871
10	0.9766
11	0.4420
TOTAL I	9.0374
H-Hold	3.0769
PI 2	0.7815
PI 3	1.9786
PI 4	0.5018
PI 5	0.6237
TOTAL P	6.9626
TOTAL	16.0000

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UN I.D.:

Date: 10-06-1995
Filename: a:vit2.TBL

pen Inverse Matrix: input-output table for vietnam, ($m)

Sector	1	2	3	4	5	6	7	8
1	1.2687	0.0854	0.0999	0.0462	0.0666	0.0327	0.0500	0.0265
2	0.0038	1.0201	0.0185	0.0721	0.0201	0.0077	0.0105	0.0053
3	0.2068	0.4373	1.3337	0.5502	0.6812	0.1953	0.5905	0.3420
4	0.0137	0.0496	0.0221	1.1104	0.0203	0.0183	0.0180	0.0116
5	0.0028	0.0291	0.0040	0.0049	1.0040	0.0163	0.0043	0.0015
6	0.0137	0.0554	0.0157	0.0891	0.0352	1.0114	0.0914	0.0224
7	0.0068	0.0111	0.0102	0.0185	0.0420	0.0085	1.0125	0.0211
8	0.0039	0.0340	0.0065	0.0088	0.0115	0.0344	0.0102	1.0049
9	0.0034	0.0448	0.0067	0.0091	0.0132	0.0305	0.0106	0.0026
10	0.0004	0.0008	0.0005	0.0005	0.0010	0.0021	0.0010	0.0005
11	0.0013	0.0037	0.0020	0.0022	0.0051	0.0102	0.0033	0.0214

Open Inverse Matrix: input-output table for vietnam, ($m) Page 2

Sector	9	10	11
1	0.0113	0.0578	0.0487
2	0.0029	0.0073	0.0101
3	0.0880	0.3425	0.3757
4	0.0106	0.0261	0.0187
5	0.0386	0.0039	0.0068
6	0.0059	0.0159	0.0181
7	0.0033	0.0248	0.0108
8	0.0015	0.0032	0.0043
9	1.0066	0.0085	0.0064
10	0.0002	1.0461	0.0176
11	0.0011	0.1576	1.0394

GRIMP -- Micro Version 5.00.00
RUN I.D.:

Date: 10-06-1995
Filename: a:vit2.TBL

Closed Inverse Matrix: input-output table for vietnam, ($m)

Sector	1	2	3	4	5	6	7	8
1	1.8706	0.4631	0.2941	0.2047	0.4807	0.3758	0.4016	0.3192
2	0.0178	1.0289	0.0230	0.0758	0.0298	0.0157	0.0187	0.0121
3	0.8188	0.8214	1.5312	0.7113	1.1022	0.5442	0.9479	0.6397
4	0.0394	0.0657	0.0304	1.1172	0.0379	0.0329	0.0330	0.0240
5	0.0273	0.0444	0.0120	0.0113	1.0209	0.0303	0.0186	0.0134
6	0.1215	0.1231	0.0505	0.1175	0.1094	1.0729	0.1544	0.0749
7	0.0466	0.0361	0.0230	0.0290	0.0694	0.0313	1.0358	0.0405
8	0.0120	0.0391	0.0091	0.0109	0.0171	0.0391	0.0150	1.0089
9	0.0796	0.0926	0.0313	0.0292	0.0656	0.0739	0.0551	0.0397
10	0.0037	0.0029	0.0016	0.0014	0.0033	0.0040	0.0029	0.0022
11	0.1607	0.1037	0.0535	0.0442	0.1148	0.1011	0.0964	0.0989
H-Hold	1.1850	0.7437	0.3824	0.3120	0.8154	0.6757	0.6921	0.5764

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

losed Inverse Matrix: input-output table for vietnam, ($m) Page 2

Sector	9	10	11	H-Hold
1	0.1705	0.5986	0.5399	0.8950
2	0.0066	0.0200	0.0215	0.0209
3	0.2498	0.8925	0.8752	0.9101
4	0.0174	0.0492	0.0397	0.0382
5	0.0451	0.0259	0.0268	0.0364
6	0.0344	0.1128	0.1061	0.1603
7	0.0139	0.0606	0.0434	0.0593
8	0.0037	0.0105	0.0109	0.0121
9	1.0268	0.0770	0.0685	0.1133
10	0.0010	1.0491	0.0203	0.0049
11	0.0432	0.3009	1.1696	0.2371
H-Hold	0.3134	1.0649	0.9672	1.7622

p -- Micro Version 5.00.00 Date: 10-06-1995
I.D.: Filename: a:vit2.TBL

L OUTPUT MULTIPLIERS: input-output table for vietnam, ($m)

OR INITIAL	FIRST	INDUST	CONS'M	TOTAL	TYPE 1A	TYPE 1B	TYPE 2A	TYPE 2
1.0000	0.3431	0.1822	1.6729	3.1981	1.3431	1.5252	3.1981	2.198
1.0000	0.5036	0.2676	1.0499	2.8210	1.5036	1.7712	2.8210	1.821
1.0000	0.3362	0.1836	0.5399	2.0597	1.3362	1.5198	2.0597	1.059
1.0000	0.5728	0.3392	0.4404	2.3524	1.5728	1.9120	2.3524	1.352
1.0000	0.5862	0.3140	1.1510	3.0512	1.5862	1.9002	3.0512	2.051
1.0000	0.2414	0.1261	0.9539	2.3214	1.2414	1.3675	2.3214	1.321
1.0000	0.5340	0.2683	0.9770	2.7793	1.5340	1.8023	2.7793	1.779
1.0000	0.2993	0.1606	0.8136	2.2735	1.2993	1.4599	2.2735	1.273
1.0000	0.1016	0.0684	0.4424	1.6124	1.1016	1.1700	1.6124	0.612
1.0000	0.4419	0.2519	1.5033	3.1971	1.4419	1.6938	3.1971	2.197
1.0000	0.3598	0.1969	1.3653	2.9219	1.3598	1.5566	2.9219	1.921

-- Micro Version 5.00.00 Date: 10-06-1995
I.D.: Filename: a:vit2.TBL

INCOME MULTIPLIERS: input-output table for vietnam, ($m)

OR INITIAL	FIRST	INDUST	CONS'M	TOTAL	TYPE 1A	TYPE 1B	TYPE 2A	TYPE 2B
0.5036	0.1198	0.0491	0.5126	1.1850	1.2380	1.3355	2.3533	1.3533
0.2770	0.0914	0.0536	0.3217	0.7437	1.3302	1.5238	2.6852	1.6852
0.1112	0.0658	0.0400	0.1654	0.3824	1.5916	1.9508	3.4376	2.4376
0.0303	0.0825	0.0642	0.1349	0.3120	3.7253	5.8448	10.2996	9.2996
0.3166	0.0833	0.0629	0.3527	0.8154	1.2630	1.4617	2.5757	1.5757
0.3132	0.0455	0.0247	0.2923	0.6757	1.1454	1.2242	2.1573	1.1573
0.2592	0.0797	0.0539	0.2994	0.6921	1.3073	1.5150	2.6697	1.6697
0.2496	0.0457	0.0317	0.2493	0.5764	1.1832	1.3102	2.3089	1.3089
0.1444	0.0211	0.0123	0.1355	0.3134	1.1460	1.2314	2.1700	1.1700
0.4302	0.1223	0.0518	0.4606	1.0649	1.2843	1.4047	2.4754	1.4754
0.4416	0.0669	0.0404	0.4183	0.9672	1.1515	1.2430	2.1903	1.1903

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ISAGGREGATED OUTPUT MULTIPLIER, 6: input-output table for vietnam, ($m)

ECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0136	0.0191	0.3432	0.3758	0.3758
2	0.0000	0.0038	0.0039	0.0080	0.0157	0.0157
3	0.0000	0.1142	0.0811	0.3490	0.5442	0.5442
4	0.0000	0.0126	0.0057	0.0146	0.0329	0.0329
5	0.0000	0.0143	0.0021	0.0140	0.0303	0.0303
6	1.0000	0.0060	0.0055	0.0615	1.0729	0.0729
7	0.0000	0.0054	0.0032	0.0227	0.0313	0.0313
8	0.0000	0.0327	0.0017	0.0046	0.0391	0.0391
9	0.0000	0.0286	0.0019	0.0434	0.0739	0.0739
10	0.0000	0.0017	0.0004	0.0019	0.0040	0.0040
11	0.0000	0.0084	0.0018	0.0909	0.1011	0.1011
OTAL	1.0000	0.2414	0.1261	0.9539	2.3214	1.3214

NITIAL OUTPUT LEVEL	2861885.00
UTPUT FLOW-ON	3781607.80
OTAL OUTPUT EFFECT	6643492.50

GRIMP -- Micro Version 5.00.00 Date: 10-06-1995
RUN I.D.: Filename: a:vit2.TBL

RANKED OUTPUT FLOW-ONS, 6: input-output table for vietnam, ($m)

RANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON OUTPUT	TOTAL OUTPUT
1	3	41.19	0.5442	1557525.62	1557525.62
2	1	28.44	0.3758	1075602.25	1075602.25
3	11	7.65	0.1011	289294.12	289294.12
4	9	5.60	0.0739	211619.61	211619.61
5	6	5.52	0.0729	208676.95	3070562.00
6	8	2.96	0.0391	111877.62	111877.62
7	4	2.49	0.0329	94276.74	94276.74
8	7	2.37	0.0313	89505.47	89505.47
9	5	2.29	0.0303	86735.06	86735.06
10	2	1.19	0.0157	45065.69	45065.69
11	10	0.30	0.0040	11428.43	11428.43
TOTAL		100.00	1.3214	3781607.50	6643492.00

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

ISAGGREGATED INCOME MULTIPLIER, 6: input-output table for vietnam, ($m)

ECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0068	0.0096	0.1728	0.1893	0.1893
2	0.0000	0.0011	0.0011	0.0022	0.0044	0.0044
3	0.0000	0.0127	0.0090	0.0388	0.0605	0.0605
4	0.0000	0.0004	0.0002	0.0004	0.0010	0.0010
5	0.0000	0.0045	0.0007	0.0044	0.0096	0.0096
6	0.3132	0.0019	0.0017	0.0193	0.3360	0.0228
7	0.0000	0.0014	0.0008	0.0059	0.0081	0.0081
8	0.0000	0.0082	0.0004	0.0012	0.0098	0.0098
9	0.0000	0.0041	0.0003	0.0063	0.0107	0.0107
10	0.0000	0.0007	0.0002	0.0008	0.0017	0.0017
11	0.0000	0.0037	0.0008	0.0401	0.0446	0.0446
OTAL	0.3132	0.0455	0.0247	0.2923	0.6757	0.3625

NITIAL INCOME LEVEL	896373.00
NCOME FLOW-ON	1037398.31
OTAL INCOME EFFECT	1933771.62

GRIMP -- Micro Version 5.00.00
RUN I.D.:

Date: 10-06-1995
Filename: a:vit2.TBL

RANKED INCOME FLOW-ONS, 6: input-output table for vietnam, ($m)

RANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON INCOME	TOTAL INCOME
1	1	52.21	0.1893	541629.19	541629.19
2	3	16.70	0.0605	173268.17	173268.17
3	11	12.31	0.0446	127738.79	127738.79
4	6	6.30	0.0228	65359.89	961732.88
5	9	2.95	0.0107	30560.37	30560.37
6	8	2.69	0.0098	27927.55	27927.55
7	5	2.65	0.0096	27456.59	27456.59
8	7	2.24	0.0081	23204.15	23204.15
9	2	1.20	0.0044	12481.66	12481.66
10	10	0.47	0.0017	4916.46	4916.46
11	4	0.28	0.0010	2855.55	2855.55
TOTAL		100.00	0.3625	1037398.38	1933771.25

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ISAGGREGATED OUTPUT MULTIPLIER, 7: input-output table for vietnam, ($m)

ECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0033	0.0468	0.3515	0.4016	0.4016
2	0.0000	0.0014	0.0091	0.0082	0.0187	0.0187
3	0.0000	0.4216	0.1689	0.3574	0.9479	0.9479
4	0.0000	0.0061	0.0119	0.0150	0.0330	0.0330
5	0.0000	0.0009	0.0034	0.0143	0.0186	0.0186
6	0.0000	0.0824	0.0091	0.0630	0.1544	0.1544
7	1.0000	0.0071	0.0054	0.0233	1.0358	0.0358
8	0.0000	0.0044	0.0058	0.0048	0.0150	0.0150
9	0.0000	0.0050	0.0056	0.0445	0.0551	0.0551
10	0.0000	0.0005	0.0004	0.0019	0.0029	0.0029
11	0.0000	0.0013	0.0020	0.0931	0.0964	0.0964
TOTAL	1.0000	0.5340	0.2683	0.9770	2.7793	1.7793

INITIAL OUTPUT LEVEL	1125484.00
OUTPUT FLOW-ON	2002595.50
TOTAL OUTPUT EFFECT	3128080.20

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ANKED OUTPUT FLOW-ONS, 7: input-output table for vietnam, ($m)

ANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON OUTPUT	TOTAL OUTPUT
1	3	53.27	0.9479	1066863.00	1066863.00
2	1	22.57	0.4016	451952.09	451952.09
3	6	8.68	0.1544	173789.95	173789.95
4	11	5.42	0.0964	108474.88	108474.88
5	9	3.09	0.0551	61976.75	61976.75
6	7	2.01	0.0358	40241.19	1165725.25
7	4	1.86	0.0330	37173.51	37173.51
8	2	1.05	0.0187	21019.80	21019.80
9	5	1.05	0.0186	20970.21	20970.21
10	8	0.84	0.0150	16875.56	16875.56
11	10	0.16	0.0029	3258.60	3258.60
OTAL		100.00	1.7793	2002595.62	3128079.50

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

ISAGGREGATED INCOME MULTIPLIER, 7: input-output table for vietnam, ($m)

ECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0016	0.0236	0.1770	0.2022	0.2022
2	0.0000	0.0004	0.0025	0.0023	0.0052	0.0052
3	0.0000	0.0469	0.0188	0.0398	0.1055	0.1055
4	0.0000	0.0002	0.0004	0.0005	0.0010	0.0010
5	0.0000	0.0003	0.0011	0.0045	0.0059	0.0059
6	0.0000	0.0258	0.0028	0.0197	0.0484	0.0484
7	0.2592	0.0018	0.0014	0.0060	0.2685	0.0093
8	0.0000	0.0011	0.0014	0.0012	0.0037	0.0037
9	0.0000	0.0007	0.0008	0.0064	0.0080	0.0080
10	0.0000	0.0002	0.0002	0.0008	0.0012	0.0012
11	0.0000	0.0006	0.0009	0.0411	0.0426	0.0426
OTAL	0.2592	0.0797	0.0539	0.2994	0.6921	0.4329

NITIAL INCOME LEVEL	291780.00
NCOME FLOW-ON	487181.84
OTAL INCOME EFFECT	778961.88

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

ANKED INCOME FLOW-ONS, 7: input-output table for vietnam, ($m)

ANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON INCOME	TOTAL INCOME
1	1	46.71	0.2022	227584.53	227584.53
2	3	24.36	0.1055	118684.01	118684.01
3	6	11.17	0.0484	54432.87	54432.87
4	11	9.83	0.0426	47897.44	47897.44
5	7	2.14	0.0093	10432.48	302212.47
6	9	1.84	0.0080	8950.17	8950.17
7	5	1.36	0.0059	6638.26	6638.26
8	2	1.19	0.0052	5821.77	5821.77
9	8	0.86	0.0037	4212.58	4212.58
10	10	0.29	0.0012	1401.83	1401.83
11	4	0.23	0.0010	1125.95	1125.95
OTAL		100.00	0.4329	487181.88	778961.81

GRIMP -- Micro Version 5.00.00 Date: 10-06-1995
RUN I.D.: Filename: a:vit2.TBL

DISAGGREGATED OUTPUT MULTIPLIER, 8: input-output table for vietnam, ($m)

SECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0000	0.0264	0.2927	0.3192	0.3192
2	0.0000	0.0000	0.0053	0.0068	0.0121	0.0121
3	0.0000	0.2379	0.1041	0.2977	0.6397	0.6397
4	0.0000	0.0048	0.0068	0.0125	0.0240	0.0240
5	0.0000	0.0000	0.0015	0.0119	0.0134	0.0134
6	0.0000	0.0160	0.0064	0.0524	0.0749	0.0749
7	0.0000	0.0180	0.0031	0.0194	0.0405	0.0405
8	1.0000	0.0025	0.0024	0.0040	1.0089	0.0089
9	0.0000	0.0002	0.0024	0.0371	0.0397	0.0397
10	0.0000	0.0000	0.0005	0.0016	0.0022	0.0022
11	0.0000	0.0198	0.0016	0.0776	0.0989	0.0989
TOTAL	1.0000	0.2993	0.1606	0.8136	2.2735	1.2735

INITIAL OUTPUT LEVEL	253928.00
OUTPUT FLOW-ON	323376.16
TOTAL OUTPUT EFFECT	577304.19

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ANKED OUTPUT FLOW-ONS, 8: input-output table for vietnam, ($m)

ANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON OUTPUT	TOTAL OUTPUT
1	3	50.23	0.6397	162426.47	162426.47
2	1	25.06	0.3192	81050.31	81050.31
3	11	7.77	0.0989	25120.98	25120.98
4	6	5.88	0.0749	19013.04	19013.04
5	7	3.18	0.0405	10287.69	10287.69
6	9	3.12	0.0397	10082.08	10082.08
7	4	1.89	0.0240	6106.52	6106.52
8	5	1.05	0.0134	3406.80	3406.80
9	2	0.95	0.0121	3076.30	3076.30
10	8	0.70	0.0089	2256.94	256184.94
11	10	0.17	0.0022	549.00	549.00
OTAL		100.00	1.2735	323376.12	577304.12

GRIMP -- Micro Version 5.00.00 Date: 10-06-1995
RUN I.D.: Filename: a:vit2.TBL

DISAGGREGATED INCOME MULTIPLIER, 8: input-output table for vietnam, ($m)

SECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0000	0.0133	0.1474	0.1607	0.1607
2	0.0000	0.0000	0.0015	0.0019	0.0034	0.0034
3	0.0000	0.0265	0.0116	0.0331	0.0712	0.0712
4	0.0000	0.0001	0.0002	0.0004	0.0007	0.0007
5	0.0000	0.0000	0.0005	0.0038	0.0042	0.0042
6	0.0000	0.0050	0.0020	0.0164	0.0235	0.0235
7	0.0000	0.0047	0.0008	0.0050	0.0105	0.0105
8	0.2496	0.0006	0.0006	0.0010	0.2518	0.0022
9	0.0000	0.0000	0.0004	0.0054	0.0057	0.0057
10	0.0000	0.0000	0.0002	0.0007	0.0009	0.0009
11	0.0000	0.0088	0.0007	0.0342	0.0437	0.0437
TOTAL	0.2496	0.0457	0.0317	0.2493	0.5764	0.3267

INITIAL INCOME LEVEL	63387.00
INCOME FLOW-ON	82968.26
TOTAL INCOME EFFECT	146355.27

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ANKED INCOME FLOW-ONS, 8: input-output table for vietnam, ($m)

RANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON INCOME	TOTAL INCOME
1	1	49.19	0.1607	40813.61	40813.61
2	3	21.78	0.0712	18069.26	18069.26
3	11	13.37	0.0437	11092.25	11092.25
4	6	7.18	0.0235	5955.09	5955.09
5	7	3.21	0.0105	2667.07	2667.07
6	9	1.75	0.0057	1455.97	1455.97
7	5	1.30	0.0042	1078.45	1078.45
8	2	1.03	0.0034	852.03	852.03
9	8	0.68	0.0022	563.39	63950.39
10	10	0.28	0.0009	236.18	236.18
11	4	0.22	0.0007	184.96	184.96
TOTAL		100.00	0.3267	82968.26	146355.25

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
UN I.D.: Filename: a:vit2.TBL

ISAGGREGATED OUTPUT MULTIPLIER, 11: input-output table for vietnam, ($m)

ECTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
1	0.0000	0.0149	0.0337	0.4912	0.5399	0.5399
2	0.0000	0.0038	0.0063	0.0115	0.0215	0.0215
3	0.0000	0.2523	0.1234	0.4995	0.8752	0.8752
4	0.0000	0.0101	0.0086	0.0210	0.0397	0.0397
5	0.0000	0.0049	0.0019	0.0200	0.0268	0.0268
6	0.0000	0.0109	0.0071	0.0880	0.1061	0.1061
7	0.0000	0.0067	0.0041	0.0325	0.0434	0.0434
8	0.0000	0.0017	0.0026	0.0066	0.0109	0.0109
9	0.0000	0.0035	0.0029	0.0622	0.0685	0.0685
10	0.0000	0.0161	0.0015	0.0027	0.0203	0.0203
11	1.0000	0.0348	0.0047	0.1301	1.1696	0.1696
TOTAL	1.0000	0.3598	0.1969	1.3653	2.9219	1.9219

NITIAL OUTPUT LEVEL	3613912.00
UTPUT FLOW-ON	6945640.00
OTAL OUTPUT EFFECT	10559552.00

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

NKED OUTPUT FLOW-ONS, 11: input-output table for vietnam, ($m)

NK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON OUTPUT	TOTAL OUTPUT
1	3	45.54	0.8752	3162837.50	3162837.50
2	1	28.09	0.5399	1951136.50	1951136.50
3	11	8.82	0.1696	612857.88	4226770.00
4	6	5.52	0.1061	383353.91	383353.91
5	9	3.57	0.0685	247669.98	247669.98
6	7	2.26	0.0434	156796.86	156796.86
7	4	2.06	0.0397	143400.06	143400.06
8	5	1.39	0.0268	96684.59	96684.59
9	2	1.12	0.0215	77867.48	77867.48
10	10	1.06	0.0203	73512.58	73512.58
11	8	0.57	0.0109	39522.60	39522.60
TAL		100.00	1.9219	6945640.00	10559553.00

IMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

SAGGREGATED INCOME MULTIPLIER, 11: input-output table for vietnam, ($m)

CTOR	INITIAL	FIRST	INDUST	CONS'M	TOTAL	FLOW-ON
	0.0000	0.0075	0.0170	0.2474	0.2719	0.2719
2	0.0000	0.0011	0.0017	0.0032	0.0060	0.0060
3	0.0000	0.0281	0.0137	0.0556	0.0974	0.0974
4	0.0000	0.0003	0.0003	0.0006	0.0012	0.0012
5	0.0000	0.0015	0.0006	0.0063	0.0085	0.0085
6	0.0000	0.0034	0.0022	0.0276	0.0332	0.0332
7	0.0000	0.0017	0.0011	0.0084	0.0112	0.0112
8	0.0000	0.0004	0.0007	0.0017	0.0027	0.0027
9	0.0000	0.0005	0.0004	0.0090	0.0099	0.0099
10	0.0000	0.0069	0.0007	0.0012	0.0088	0.0088
11	0.4416	0.0154	0.0021	0.0575	0.5164	0.0749
OTAL	0.4416	0.0669	0.0404	0.4183	0.9672	0.5256

NITIAL INCOME LEVEL	1595735.00
NCOME FLOW-ON	1899467.50
OTAL INCOME EFFECT	3495202.50

RIMP -- Micro Version 5.00.00 Date: 10-06-1995
N I.D.: Filename: a:vit2.TBL

NKED INCOME FLOW-ONS, 11: input-output table for vietnam, ($m)

ANK	SECTOR	PERCENT	FLOW-ON MULTIPLIER	FLOW-ON INCOME	TOTAL INCOME
1	1	51.73	0.2719	982512.25	982512.25
2	3	18.52	0.0974	351852.34	351852.34
3	11	14.25	0.0749	270609.53	1866344.50
4	6	6.32	0.0332	120070.55	120070.55
5	7	2.14	0.0112	40649.34	40649.34
6	9	1.88	0.0099	35766.46	35766.46
7	10	1.66	0.0088	31624.77	31624.77
8	5	1.61	0.0085	30606.18	30606.18
9	2	1.14	0.0060	21566.64	21566.64
10	8	0.52	0.0027	9865.86	9865.86
11	4	0.23	0.0012	4343.45	4343.45
OTAL		100.00	0.5256	1899467.38	3495202.20

APPENDIX 8

Estimated economic impacts of international tourism in Vietnam, 1994

Table 8.1: Estimated economic impact on total output in Vietnam, 1994 (D million)

Sector No.	Name of Sector	Initial	Flow-on	Total
6	Wholesale & Retail Trade	1,914,000	2,529,000	4,443,000
	Taiwan	613,000	810,000	1,423,000
	France	176,000	232,000	408,000
	Japan	501,000	662,000	1,163,000
	USA	152,000	201,000	353,000
	UK	18,000	24,000	42,000
	Thailand	23,000	30,000	53,000
	Hong Kong	26,000	35,000	61,000
	Others	405,000	535,000	940,000
7	Transport & Communication	2,970,000	5,285,000	8,255,000
	Taiwan	518,000	922,000	1,440,000
	France	213,000	379,000	592,000
	Japan	959,000	1,706,000	2,665,000
	USA	490,000	872,000	1,362,000
	UK	52,000	93,000	145,000
	Thailand	29,000	52,000	81,000
	Hong Kong	62,000	110,000	172,000
	Others	647,000	1,151,000	1,798,000
8	Finance & Business Services	525,000	669,000	1,194,000
	Taiwan	94,000	120,000	214,000
	France	13,000	16,000	29,000
	Japan	292,000	372,000	664,000
	USA	17,000	22,000	39,000
	UK	5,000	6,200	11,200
	Thailand	2,000	2,500	4,500
	Hong Kong	1,000	1,300	2,300
	Others	101,000	129,000	230,000
11	Recreation, Personal&Other Serv.	11,273,000	21,665,000	32,938,000
	Taiwan	3,486,000	6,700,000	10,186,000
	France	854,000	1,641,000	2,495,000
	Japan	2,420,000	4,651,000	7,071,000
	USA	1,031,000	1,981,000	3,012,000
	UK	183,000	352,000	535,000
	Thailand	153,000	294,000	447,000
	Hong Kong	254,000	488,000	742,000
	Others	2,892,000	5,558,000	8,450,000
	Total	16,682,000	30,148,000	46,830,000
	Taiwan	4,711,000	8,552,000	13,263,000
	France	1,256,000	2,268,000	3,524,000
	Japan	4,172,000	7,391,000	11,563,000
	USA	1,690,000	3,076,000	4,766,000
	UK	258,000	475,200	733,200
	Thailand	207,000	378,500	585,500
	Hong Kong	343,000	634,300	977,300
	Others	4,045,000	7,373,000	11,418,000

Table 8.2: Estimated economic impact on household income in Vietnam, 1994
(Đ million)

Sector No.	Name of Sector	Initial	Flow-on	Total
6	Wholesale & Retail Trade	600,000	694,000	1,294,000
	Taiwan	192,000	222,000	414,000
	France	55,000	64,000	119,000
	Japan	157,000	182,000	339,000
	USA	48,000	55,000	103,000
	UK	6,000	6,500	12,500
	Thailand	7,000	8,000	15,000
	Hong Kong	8,000	9,5000	17,500
	Others	127,000	147,000	274,000
7	Transport & Communication	770,000	1,285,000	2,055,000
	Taiwan	134,000	224,000	358,000
	France	55,000	92,000	147,000
	Japan	249,000	415,000	664,000
	USA	127,000	212,000	339,000
	UK	13,500	22,500	36,000
	Thailand	7,500	12,500	20,000
	Hong Kong	16,000	27,000	43,000
	Others	168,000	280,000	448,000
8	Finance & Business Services	131,000	172,000	303,000
	Taiwan	24,000	31,000	55,000
	France	3,000	4,000	7,000
	Japan	73,000	95,000	168,000
	USA	4,000	6,000	10,000
	UK	1,250	2,000	3,250
	Thailand	500	700	1,200
	Hong Kong	250	300	550
	Others	25,000	33,000	58,000
11	Recreation, Personal&Other Serv.	4,978,000	5,925,000	10,903,000
	Taiwan	1,539,000	1,832,000	3,371,000
	France	377,000	449,000	826,000
	Japan	1,069,000	1,272,000	2,341,000
	USA	455,000	542,000	997,000
	UK	81,000	96,000	177,000
	Thailand	68,000	80,500	148,500
	Hong Kong	112,000	133,500	245,500
	Others	1,277,000	1,520,000	2,797,000
	Total	6,479,000	8,076,000	14,555,000
	Taiwan	1,889,000	2,309,000	4,198,000
	France	490,000	609,000	1,099,000
	Japan	1,548,000	1,964,000	3,512,000
	USA	634,000	815,000	1,449,000
	UK	101,750	127,000	228,750
	Thailand	83,000	101,700	184,700
	Hong Kong	136,250	170,300	306,550
	Others	1,597,000	1,980,000	3,577,000

Table 8.3: Estimated economic impact on employment in Vietnam, 1994 (jobs)

Sector No.	Name of Sector	Direct	Indirect	Total
6	Wholesale & Retail Trade	7,062	10,593	17,655
	Taiwan	2,262	3,393	5,655
	France	649	974	1,623
	Japan	1,849	2,773	4,622
	USA	561	841	1,402
	UK	66	100	166
	Thailand	85	127	212
	Hong Kong	96	144	240
	Others	1,494	2,241	3,735
7	Transport & Communication	10,959	16,439	27,398
	Taiwan	1,911	2,867	4,778
	France	786	1,179	1,965
	Japan	3,539	5,308	8,847
	USA	1,808	2,712	4,520
	UK	192	288	480
	Thailand	107	161	268
	Hong Kong	229	343	572
	Others	2,387	3,581	5,968
8	Finance & Business Services	1,937	2,906	4,843
	Taiwan	347	420	867
	France	48	72	120
	Japan	1,077	1,616	2,693
	USA	63	94	157
	UK	18	28	46
	Thailand	7	11	18
	Hong Kong	4	6	10
	Others	373	559	932
11	Recreation, Personal & Other Ser.	41,597	62,395	103,992
	Taiwan	12,863	19,295	32,158
	France	3,151	4,726	7,877
	Japan	8,930	13,395	22,325
	USA	3,804	5,706	9,510
	UK	675	1,013	1,688
	Thailand	565	847	1,412
	Hong Kong	937	1,406	2,343
	Others	10,672	16,007	26,679
	Total	**61,555**	**92,333**	**153,888**
	Taiwan	17,384	26,075	43,459
	France	4,634	6,952	11,586
	Japan	15,394	23,092	38,486
	USA	6,236	9,354	15,590
	UK	952	1,428	2,380
	Thailand	764	1,145	1,909
	Hong Kong	1,265	1,898	3,163
	Others	14,926	22,389	37,315

APPENDIX 9

Questionnaire

VIETNAM TOURISM

1995 Survey of International Visitors

Please answer the questions, by placing a tick in the correct box. There is only one answer per question unless otherwise indicated. If you have any queries about the questionnaire, please do not hesitate to ask the distributor who hands out this form. Your support is greatly appreciated.

1. How did you first learn about Vietnam as a tourist destination country?
   - ☐ Word of mouth
   - ☐ Media
   - ☐ Travel agent
   - ☐ Other (*please specify*)

   .....

2. Where do you come from?

   .....

3. How many nights will you stay
   - in Hanoi?.....
   - in HCM City?.....
   - elsewhere in Vietnam?.....

4. What type of accommodation did you use?
   - ☐ Hotel
   - ☐ Mini Hotel
   - ☐ Guest House
   - ☐ Friends/Relatives
   - ☐ Other (*please specify*).....

5. How many people have come in your group to Vietnam?

   .....

6. Are you travelling with a pre-paid organised group tour?
   - ☐ No
   - ☐ Yes (*which group*).....

7. What was your **main** reason for visiting Vietnam
   - ☐ Holiday
   - ☐ Visiting friends and relatives
   - ☐ Business
   - ☐ Conference
   - ☐ Other (*please specify*).....

8. What is your main form of transport in Vietnam?
   - ☐ Private vehicle
   - ☐ Rented vehicle
   - ☐ Public transport
   - ☐ Taxi
   - ☐ None
   - ☐ Other (*please specify*).....

9. Will anyone in your party return to Vietnam next year?
   - ☐ Yes(*please go to Question 11*)
   - ☐ Uncertain
   - ☐ No

10. Could you please specify why you would not return to Vietnam next year?

    .....

    .....

    .....

    .....

    .....

11. When was the last time you went to Vietnam?
    - ☐ Never
    - ☐ In the last 12 months
    - ☐ 2 years ago
    - ☐ 3 - 4 years ago
    - ☐ 5 or more years ago

12. What is your occupation?

    .....

    .....

    .....

    .....

    .....

(next page)

13. Please indicate what your annual household income in US dollars is

☐ up to 10,000 ☐ 10,001 - 20,000 ☐ 20,001 - 30,000
☐ 30,001 - 40,000 ☐ 40,001 - 50,000 ☐ 50,001 - 60,000
☐ 60,001 and over

14. In our examination of the economic impact of tourism on Vietnam, we would like to know your expenditure patterns. Using the following table, please **estimate** what you think your **actual expenditure** will be in the following areas (*include all expenditure made by cash, credit card or cheque in US dollars*)

Accommodation	$.....	or.....%
Food and Beverage	$.....	or.....%
Transport (*petrol/hire car/taxi/domestic airlines*)	$.....	or.....%
Shopping/personal services	$.....	or.....%
Entertainment	$.....	or.....%
Insurance	$.....	or.....%
Miscellaneous (*please specify*)		
.....	$.....	or.....%
Total =	**$.....**	**or.....%**

15. How much money did you intend to spend during your visit to Vietnam

☐ $1,000 and under ☐ $1,001 - $2,000 ☐ $2,001 - $3,000
☐ $3,001 - $4,000 ☐ $4,001 - $5,000 ☐ $5,001 - $6,000
☐ $6,001 and over

Could you now just answer these final three questions to complete the questionnaire

16. You are a

☐ Male
☐ Female

17. What age group do you belong to?

☐ 18 - 24 ☐ 25 - 34
☐ 35 - 44 ☐ 45 - 54
☐ 55 - 64 ☐ 65 and over

18. What is your marital status?

☐ Married/De facto
☐ Single/Never married
☐ Divorced/Separated

Any further comments that you would like to make about Vietnam tourism are most welcome.

.....
.....
.....
.....
.....
.....

Survey conducted by a Master of Business in Tourism Development student of Victoria University, Melbourne, Australia with co-operation from.....

APPENDIX 10

Summary of total economic impacts of international tourism in Vietnam, 1994

Table 10.1: Total output, household income and employment effects from initial tourist expenditure by country of origin in Vietnam, 1994

	Output (D million)	HH Income (D million)	Total output & HH Inco.		Employment (jobs)
			(D million)	(%)	
Taiwan	13,263,000	4,198,000	17,461,000	28.4	43,459
France	3,524,000	1,099,000	4,623,000	7.5	11,586
Japan	11,563,000	3,512,000	15,075,000	24.6	38,486
USA	4,766,000	1,449,000	6,215,000	10.1	15,590
UK	733,200	228,750	961,950	1.6	2,380
Thailand	585,500	184,700	770,200	1.3	1,909
Hong Kong	977,300	306,550	1,283,850	2.1	3,163
Others	11,418,000	3,577,000	14,995,000	24.4	37,315
Total	**46,830,000**	**14,555,000**	**61,385,000**	**100.0**	**153,888**

Table 10.2: Total economic impact on output, household income and employment in relevant industrial sectors in Vietnam, 1994

	Output (D million)	HH income (D million)	Total		Employment (jobs)
			(D million)	(%)	
Sector 6	4,443,000	1,294,000	5,737,000	9.4	17,655
Sector 7	8,255,000	2,055,000	10,310,000	16.8	27,398
Sector 8	1,194,000	303,000	1,497,000	2.4	4,843
Sector 11	32,938,000	10,903,000	43,841,000	71.4	103,992
Total	**46,830,000**	**14,555,000**	**61,385,000**	**100.0**	**153,888**

Table 10.3: Total flow-on effects of the four tourism-related sectors' expenditure on other industries' output in Vietnam, 1994 (D million)

Sector	Sector 6	Sector 7	Sector 8	Sector 11	Total	
					(D million)	(%)
1	270,293	479,038	53,514	3,285,670	4,088,515	24.17
2	472.5	1,038	77	5,217	6,804.5	0.04
3	566,890	2,668,641	214,964	8,634,934	12,085,429	71.46
4	2,072	3,244	303.5	17,718	23,337.5	0.14
5	1,755	1,032	94	8,071	10,952	0.06
6	10,177	70,829	2,946	126,886	210,838	1.25
7	1,876	3,803	862	21,250	27,791	0.16
8	2,927	666	42	1,346	4,981	0.03
9	10,466	8,998	829	52,981	73,274	0.43
10	30	24.5	2.5	4,662	4,719	0.03
11	19,560	27,613.5	5,141	324,081	376,395.5	2.23
Total	886,518.5	3,264,927	278,775	12,482,816	16,913,036.5	100.00

Table 10.4: Total flow-on effects of the four tourism-related sectors' expenditure on other industries' household income in Vietnam, 1994 (D million)

Sector	Sector 6	Sector 7	Sector 8	Sector 11	Total	
					(D million)	(%)
1	68,590.5	121,365	13,596	833,374	1,036,925.5	80.58
2	37	79.5	6	405	527.5	0.04
3	7,012	33,024	2,667	106,878	149,581	11.62
4	2	3	0.3	16	21.3	0.00
5	176.5	103	9	811	1,099.5	0.09
6	997	6,947	290	12,432	20,666	1.61
7	126	256	58	1,420	1,860	0.14
8	183	41	2.6	83	309.6	0.02
9	219	189	17	1,103	1,528	0.12
10	5.5	4.5	0.4	865.5	875.9	0.07
11	3,810	5,381	1,005	63,239	73,435	5.71
Total	81,158.5	167,393	17,651.3	1,020,626.5	1,286,829.3	100.00

Table 10.5: Total flow-on effects of the four tourism-related sectors' expenditure on other industries' total output and household income in Vietnam, 1994

Sector	Total (D million)	%
1	5,125,440.5	28.16
2	7,332	0.04
3	12,235,010	67.23
4	23,358.8	0.13
5	12,051.5	0.07
6	231,504	1.27
7	29,651	0.16
8	5,290.6	0.03
9	74,802	0.41
10	5,594.9	0.03
11	449,830.5	2.47
Total	**18,199,865.8**	**100.00**