A COMPARATIVE STUDY OF THE ECONOMIC IMPACTS

OF TOURISM INVESTMENT

ON SELECTED ECONOMIES OF APEC REGION

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ABSTRACT

Abstract of thesis entitled 'A Comparative Study of the Economic Impacts of Tourism Investment on Selected economies of APEC Region'

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With the growing recognition of the economic and social importance of the tourism industry by national governments, both public and private sectors are paying more attention to tourism development through capital investment. Foreign direct investment is seen by many countries as a valuable source to assist the growth of this lucrative industry. In the APEC economies, policies have been formulated to attract foreign investment throughout the region. However, macro-economic evaluation to justify foreign direct investment into the national economy is lacking.

This study examines the economic impacts of foreign direct investment on three APEC economies at three levels of development: Australia as a developed economy, China as a developing economy and Hong Kong as a newly-industrialised economy. It is perceived that the overall performance of foreign direct investment is related to and constrained by many identifiable variables in the host economy. Thus, the economic outcomes might vary from one economic category to another.

The economic impacts demonstrate the net benefits of foreign direct investment to the host economy on a macroeconomic level. The net benefits are measured on commensurate and incommensurate basis in order to project a panoramic picture of the economic impacts. A comparative cost-benefit framework is provided.

The commensurate impacts are measured by a multiplier analysis. Quantitative indicators include output, personal income and employment. Foreign exchange leakage effect is also conceptualised. Incommensurate impacts are analysed in terms of foreign direct investment's impacts on the industrial structure of the tourism industry and technology transfer to the host economy.

The findings of the study suggest that foreign direct investment is more efficient in terms of output multiplier effect in a more developed economy, but it has a more positive effect on personal income of the tourism employees in a less developed economy. The level of foreign exchange leakage is subject more to the ability of the host economy to meet the input requirements of the tourism industry rather than the level of economic development. The study finds that foreign direct investment is likely to build up horizontal integration in a less developed economy to exploit economies of scale, while it also builds up vertical integration in a more developed economy to capture economies of scope. However, at least in the three economies examined, the level of integration resulted from foreign direct investment is unlikely to cause monopoly in the tourism industry. In terms of technology transfer, foreign direct investment appears to be more likely in the form of equity investment in a less developed economy, while it is more likely to be in the form of contractual arrangement in a more developed economy.

The study is a useful experiment to apply cost-benefit analysis to the measurement of the economic impacts of foreign direct investment in the tourism industry and it proves that cost-benefit analysis is a practical and proper tool for such aims.

Key words: Foreign direct investment, Economic impact, Cost-benefit analysis, Comparative analysis, APEC economies.

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Chapter 1. Introduction

1.1 Background

This section provides background information for the whole research project.

1.1.1 General Status of Tourism in Asia and the Pacific Region

The World Tourism Organisation (WTO) reported in 1998 that the world tourist arrivals in 1997 reached 613 million, of which 447 million used international air carriers. The global tourism receipts (excluding international transport) increased from US$ 436 billion in 1996 to US$ 448 billion in 1997, while international fare receipts were estimated at US$ 65 billion. Tourism receipts represented more than 8% of the world merchandise exports and one-third of world trade in services. (WTO 1998)

The World Travel & Tourism Council (WTTC), a global coalition of Chief Executive Officers of the travel and tourism industry, looked at the picture from another perspective and stated (WTTC 1996/7 Report) :

Travel and tourism is the world's largest industry. It is a major economic force, producing over US$ 3.5 trillion in gross output and 255 million jobs in 1996, generating more than 10% of global GDP and contributing more than US$ 637 billion global tax revenue, attracting US$ 639.9 billion in new facilities and equipment.

The Asia-Pacific region has been one of the fastest growing regions in terms of tourist arrivals over the last decade. Europe and North America continue to maintain

their overall dominance in both arrivals and receipts as the first and second largest tourist markets. In 1996, East Asia-Pacific[1] had 88 million arrivals and US$ 81.2 billion receipts, accounting for 9.6% growth in arrivals and nearly 10.3% increase in receipts over that of 1995. Europe had 351 million arrivals and US$ 217.2 billion receipts in 1996 (Table 1.1-1).

Table 1.1-1 An Overview of Global Tourist Arrivals and Receipts 1995-1996

Region/Year	Tourist arrivals (million)		% Change	Tourism receipts (US$ millions)		% Change
	1995	1996	96/95	1995	1996	96/95
WORLD	564.0	595	5.5	399.3	425.3	6.5
AFRICA	19.6	21	7	7.2	8.3	15.5
AMERICAS	110.6	116	4.9	100.1	106.5	6.4
E.ASIA-PACIFIC	80.3	88	9.6	73.6	81.2	10.3
EUROPE	335.6	351	4.6	207.6	217.2	4.6
MIDDLE EAST	13.3	14	4.9	7.2	8	10.6
SOUTH ASIA	4.8	5	4.6	3.6	4	10.5

Source: WTO, 1997

Table 1.1-2 shows that East Asia-Pacific has its global market share of tourist arrivals increased from 3.9% in 1975 to 14.7% in 1996, and tourism receipts from 5.3% to 19.1% over the same period. Europe is still the largest tourist destination, however it has experienced a loss of 10.1% in its share of arrivals and 12.4% in its share of receipts. Americas has lost 5% points in arrivals, although its share of receipts has been maintained at around 25%.

Table 1.1-2 Market Share of World Arrivals and Receipts, 1975 and 1996

Region/Year	ARRIVALS (%)		RECEIPTS (%)	
	1975	1996	1975	1996
AFRICA	2.1	3.6	3.1	2.0
AMERICAS	22.5	19.5	25.1	25.1
E.ASIA-PACIFIC	3.9	14.7	5.3	19.1
EUROPE	69.2	59.1	63.5	51.1
MIDDLE EAST	1.6	2.4	-	1.9
SOUTH ASIA	0.7	0.8	0.8	1.0
NB. Percentages may not add up to 100% due to rounding.				

Source: WTO, 1997

1.1.2 Trend of Tourism Development in the APEC[2] Region

In its long-term forecasts of tourism development, WTTC (1996) projects that travel and tourism will continue to grow worldwide in the next decade. The expected growth rate will be 4% per year, adjusted for inflation.

Lundberg et al. (1995) find that due to the complex nature of the tourism industry as it cross-cuts many economic sectors, previous tourism forecasts produced by the various institutions using definite figures such as arrivals and receipts, were far from accurate. WTTC (1996) claims that its forecasts, jointly conducted with Wharton Economic Forecasting Association (WEFA), are more reliable, because WTTC/WEFA use satellite account methods and input-output techniques that can adequately capture the impacts of travel and tourism.

In its 1995 annual report, WTTC estimates that the tourism industry in the Asia-

Pacific region will generate US$ 2.1 trillion gross output and 280.8 million employment in 2006. In 1996, WTTC projected that travel and tourism industry in the Asia-Pacific region will continue to grow at an annual rate of 7.9% in regional gross output between now and 2005.

The Tourism Working Group of Asia Pacific Economic Co-operation (APEC) recognises that tourism industry is important in promoting economic growth and social development for the Asia-Pacific region. It is even more so with developing economies where the rate of marginal substitution is comparatively lower (Fletcher, 1989; APEC Action Plan, 1995). Therefore, it is not difficult to understand why developing economies of APEC have been striving to entice investment into the tourism industry. They also compete for foreign investment, providing policy incentives to foreign investors (APEC Committee on Trade and Investment 1996). These policy orientations are reflected clearly in one of the top priorities of APEC Tourism Working Group's action agenda: "removing barriers to tourism movement and investment and liberalising trade in services associated with tourism".

To facilitate regional investment, the APEC Committee on Trade and Investment has formulated non-binding investment principles that apply to all economic sectors under the APEC umbrella. Endorsed by state leaders of the APEC members, the principles are directed to realising free and open investment within the region by 2010 for developed economies and by 2020 for developing economies (APEC Secretariat 1996).

In its Vilamoura Declaration of January 1997 in Portugal, the Travel & Tourism

World Summit recognised that travel and tourism investment, promotion and consumer spending provide an effective way to create new jobs at multiple levels in various sectors of the economy including transport, communications, finance and information technology. These activities also provide the economy with higher employment growth, career potential and remuneration. The summit also called for stronger co-operation between the public and the private sectors, with the objective to make travel and tourism a strategic economic development and employment priority.

1.2 Rationale and Problem Statement

1.2.1 Need for a general Equilibrium Perspective of Tourism Impacts

The Vilamoura Declaration (WTTC 1997) echoed once again the calls of tourism authorities for collective efforts to boost the lucrative tourism business. It clearly suggests that investment is a major factor to economic development. However, due to the complexity of the tourism industry, it takes time for the tourism authorities and researchers to produce convincing and credible economic, social and environment assessment beneficial to the public (Pearce 1989). It is not surprising that many national governments have not fully entertained the calls of tourism sectors for more strategic investment in the industry (APEC tourism working group 1995; WTTC 1997). However, with the profound economic impacts being recognised, the tourism industry has been gaining recognition over the last few decades. This is especially true to most Asia-Pacific economies (Lundberg et al. 1995; APEC Secretariat 1996).

The recognition of such diverse economic gains resulting from tourism activities affords more and broader analysis on tourism economics. While a growing number

of studies have started to examine the impacts derived from tourism economics, few are done in relation to tourism investment, foreign investment in particular, and some researchers find that this important area has been neglected (Bull 1990; Dwyer and Forsyth 1994). For example, Archer (1977, 1995) has since 1977 made a series of economic impact studies of tourism on small island economies such as Bermuda and Bahamas. Mak (1989), Hurley et al (1994), Meis (1995), and Lee (1997) have conducted independent tourism impact studies for the USA, Ireland, Canada and South Korea. WTTC (1996) also made a comprehensive study of tourism contribution to the Australian economy. All these studies measure the economic impacts of tourist spending (or tourist expenditures).

The modern phenomenon of global mass tourism did not flourish until the advent of jet plane in the 1960s. Over the last few decades, tourists have become more experienced and discerning. They have more disposable income and longer fully paid holidays. As a result of these changes in social and economic developments, the tourist markets are becoming segmented. Service providers have to develop diversified products to meet the changing demands of tourists to maintain or gain a competitive edge. The tourist products have transformed from the traditional business trips and sightseeing to dozens of segments such as cultural tours, pleasure tours, special interest tours, religious and homage tours, visiting-friend-and-relative tours, incentive tours, conference and convention functions. Hence the jargon of 'niche markets' in tourism.

The tourism industry has to cater for the ever-increasing needs of the tourists. Therefore, more economic sectors are involved and higher service quality is

required. About 30 economic sectors (see Figure 1.2-1) are believed to be directly related to tourism (Archer 1977; Lundberg 1995). The tourism industry witnesses a growing reliance on intensified investment. Some sectors such as airlines, hotels, theme parks and resorts are becoming strikingly more capital intensive (Karl et al. 1993). Policy incentives have been formulated to attract foreign investment in many of the APEC economies. This requires an undertaking of a macro-economic evaluation to justify the significance of foreign investment to the national economy.

1.2.2 Why Do We Look at Foreign Direct Investment (FDI)?

Economic theory tells us that an increase in the rate of investment is one source of economic growth. John Maynard Keynes and R. K. Kahn introduced the idea that economic growth resulting from investment will create employment and income for the future (Lundberg et al. 1995). Investment, like exports and tourist spending, is considered to be an exogenous injection into a national economy. However, foreign investment and domestic investment (whether the domestic investment is government or private) may have different impacts on the national economy. Domestic investment can only be achieved by stimulating the necessary amount of saving. More savings mean that less income could be used for consumption. Consequently, a decrease in consumption can have an effect on the growth of the nation's long-term investment.

Foreign investment, on the other hand, does not require domestic savings. Thus, any effect resulted from foreign investment is an additional value to the host national economy. From this perspective, foreign investment is a valued source of economic growth.

Figure 1.2-1 Economic Sectors Related to the Tourism Industry

Accommodations:
   hotel, motel, guest-house, hostel, apartment
   resort, camp, health-oriented accommodation
   caravan trailer, motor home, second home
   restaurant, bar and other food & beverage places

Transportation:
   airline
   liner and cruise company
   railway
   taxi, car rental and limousine company
   bus, tram, metro service

Travels and tours:
   reservation and ticketing agency
   travel agency
   tour operator, tour-guide company

Recreation and entertainment:
   theme park, amusement park
   historical site, museum
   sports facility
   cinema, theatre, concert hall, studio
   gaming & gambling
   club

Shopping:
   gift & souvenir
   arts & crafts
   drug and cosmetics
   clothing
   grocery and market
   mall
   sports-wear shop
   photography

Other tourism-related service sectors
   banking and insurance
   meeting & convention business and facility
   publishing (travel literature, map, fine art)

This figure shows the six basic elements of tourism industry: food and beverage, lodging, travelling, touring, shopping and entertainment. Each element contains many sub-elements. Failure to provide with any of the sub-elements will debilitate or seriously reduce tourism activities. Substantial investment is needed to develop a well-balanced tourism infrastructure network.

Also, what is most ideal to the host economy is foreign investment incurs no opportunity cost. This is because if the foreign investor finds it is not the right time and place to make investment in the tourism industry, he is very unlikely to make that investment in other industries where he does not have the expertise. Then, there does not exist a "second best alternative" of investment, where opportunity cost is such defined, in the host economy.

Quite a few conceptual and empirical researches have been undertaken to investigate the impacts of foreign investment on the national economy (Jansen 1995). Some researches even started to tap the area of foreign investment impacts on the tourism industry, such as those done by Forsyth and Dwyer (1993, 1994). Yet, more rigorous studies are needed to illustrate the magnitude of the breadth and depth of the impacts of foreign tourism investment.

Foreign investment can be categorised into the following forms: foreign capital loans (FCL), foreign direct investment (FDI), and foreign portfolio investment (FPI). FDI and FPI are seen by the host economy as better forms of investment, because both FDI and FPI need not be repaid and the outflow of funds (remittances of profits) can vary with the cycle of the economy. Thus, there is less risk involved in relation to the nation's balance-of-payment because of the financial obligations on the part of the host economy (Jansen 1995).

To further distinguish FDI from FPI, investors of FDI participating in the operation and management of the enterprise will enjoy directly the gains or bear the losses from the investment. Consequently, FDI helps to raise the competitiveness of the

host economy - it brings technology, management know-how, marketing skills and access to export markets (Bergsman and Shen 1996). FDI is also a catalyst to trade. It helps to explore the possibility to integrate the production of the host economy vertically into an international production chain (Lall 1992). With FPI, the foreign investor only reaps returns or takes risks from the portfolio market, the operation and management of the business may be done by a local party or another foreign legal party. As Lall (1992) observes, FDI is historically one of the most effective means of putting economic co-operation into practice. The capital commitment by foreign investors to a country ties their interests together in a way few other forms of economic interaction can match. It also provides an efficient, market-determined means of transferring technologies, skills, personnel and products.

And, indeed, in APEC today, intra-regional FDI is one of the most dynamic phenomena among intra-regional economic relations. From 1990 to 1996, FDI flows to the APEC region grew by 113.8% to an amount of US$ 249,676 million. While in the same period, intra-regional FDI climbed from 54.1% of the world total to 56.3% (JETRO 1998).

The current financial turmoil of Southeast Asia attests the value of FDI in comparison with other forms of foreign investments. The financial crisis occurred because the foreign investors can withdraw billions of dollars from the portfolio and foreign exchange markets within a single day! FDI, on the contrary, can avoid such destructive impacts to the host economy because FDI by its very nature has a long-term economic interest in the host economy. In the wake of the Asian financial crisis, FDI deserves more serious considerations of the host economies.

1.2.3 Research Problems

With the remarkable growth in the tourism industry experienced in the APEC economies over the last few decades, tourism economic impact studies are becoming a popular method to justify the economic viability of the tourism industry to a country. Some studies go further to evaluate the overall benefits of the tourism industry by offsetting its social and environmental costs of growth and development (McIntosh, Goeldner and Ritchie 1995). However, the impacts of FDI in the tourism industry are almost a neglected area of tourism study (Sinclair 1991).

Foreign direct investment in tourism (FDIT) has several prominent social, economic and political impacts on the host economy. In macro-economic terms, it has impacts on economic growth and development, balance of payments, the level of business investment, and on changes in the industrial structure. It also has impacts on income distribution, technology transfer, economic and political autonomy.

Several studies suggest that FDIT is not all-conducive, though basically positive to the development of the host economy (Bull 1990; Forsyth and Dwyer 1993; Jansen 1995; and *Economic and Political Weekly* 1996). However, some conceptually and empirically important questions are still left unclear. For example, issues like the significance of foreign investment to tourism growth and development, industrial structure, total investment, the extent of import and export (foreign exchange leakage), tax policies toward FDI, employment and personal income, have not been rigorously studied. Cross-country comparative studies are even fewer. While on the other hand, as FDI continues to grow, the tourism administrators and the economists would require deeper understanding in the impacts of FDI to facilitate decision-making.

1.3 Scope of the Study

This study investigates the economic impacts of FDI on the tourism industry (FDIT) in three APEC economies. They are Australia, China and Hong Kong.

When this research project was first initiated, we intended to study the economic impacts in more APEC economies than the present three. Two factors contributed to the reduction in the number of economies to be examined. The first is time constraint. Initial efforts in data collection revealed that more time than expected was needed to collect the secondary data suitable for our purposes. The second factor is that, during literature review, we found evidences that we can still achieve our objectives without studying that many economies.

Archer (1982) and Pearce (1989) find that in towns and countries bearing similar characteristics (size, population, economic structure), there is a certain amount of consistency in the economic impacts of the tourism industry. We choose the above three economies as they can be classified in three categories of economies: Australia is a developed economy, China is a developing economy, and Hong Kong is a newly industrialised economy. Empirical studies (Cater 1988; UN 1992; OECD 1993a, b) seem to confirm the observations of Archer (1982) and Pearce (1989). Based on this understanding, the three economies chosen are perceived to be representative of the economies at similar level of economic development of their own category in the APEC region. For example, China is perceived to be at similar economic level to Chile and Indonesia and other developing economies; Hong Kong to Malaysia, Singapore, South Korea and Taiwan; Australia to Canada and Japan, etc.

1.4 Research Objectives

Given that the three economies are at three different levels of development, the study is aimed to measure the total impacts of FDIT on each category of the economies. The economic impacts are to be identified and classified into two broad types, i.e. the commensurate impacts on output, personal income and employment, and the incommensurate impacts on industrial structure and technology transfer.

1.5 Hypotheses

In the light of the general objective given out in 1.4, the following hypotheses are formulated in the study:

(1)   Increased FDIT generates different amount of benefits in terms of total output, employment and personal income in different categories of economy. It generates more output in a more developed economy while produces more positive effects on employment and personal income of the employees in a less developed economy. This will show how well FDIT performs in each category of the economies. As FDIT operates in a given category host economy, it is subject to an array of host factors and policy regimes, which affect the performance of FDIT.

(2)   Increased FDIT exerts different impacts on tourism's industrial structure in the three categories of economies. Growing FDIT is likely to cause horizontal integration in a less developed economy and vertical integration in a more developed economy among tourism businesses. However, either type of integration is unlikely to result in concentration or more seriously, monopoly by foreign investment in certain types of business;

(3)   FDIT shows different patterns of involvement in the different categories of economy. The patterns of FDIT are identified in three types: wholly-foreign-owned enterprise, joint-venture enterprise and contractual arrangements (management agreement, licensing, franchise, leasing). FDIT is more prone to be in the form of equity investment in a less developed economy and in the form of contractual arrangements in a more developed economy. Different patterns of FDIT have different levels of technology transfer to the host economy. Technology transfer refers to the hand-on effect of both the tangible technology and the intangible technology (skills such as management, marketing, service quality, etc.). The importance of technology transfer to the host economy decreases from wholly-foreign-owned enterprises to joint-venture enterprises then to contractual arrangements.

1.6 Working Definitions

Tourism can be perceived from different perspectives. It evolves social and economic development, and continues to change in magnitude (Smith 1988; Lundberg 1995).

With the aim to eliminate differences and confusion in definitions of the tourism industry, WTO, in 1993, recommended a series of definitions for tourism activities and tourism statistics. These definitions were endorsed and adopted by the United Nations Statistical Commissions as guideline concepts to establish clear standards for measuring tourism activities. The definition of tourism recommended by WTO is as follows:

"Tourism is a subset of travel. Tourism mainly comprises the activities of persons travelling to and staying in places outside their usual environment for leisure, business and other purposes." (WTO Statistics Technical Manual 1, 1996)

The above definition embodies several attributes. It perceives tourism activities from the demand side.

a. the trip should be to a place other than that of the usual environment,

b. the stay in the place visited should not last more than 12 consecutive months, and

c. the main purpose of the trip should be other than the exercise of an activity remunerated from within the place visited.

What we are concerned with in this study, however, is the other side of the same coin. Now we know who the tourists are, and we know there is a tourism demand. But who are the suppliers? Unfortunately, WTO has not spelled out a definition from the perspective of the supply side. We would like to ask, what businesses can be categorised under tourism industry, or, who are the suppliers that provide the services for the tourists. In practice this is not a simple question. To establish our own working definition while conforming to the basic ingredients of WTO's definition, we do some modifications to the WTO definition. Smith (1988) develops a supply-side tourism definition. He stresses that tourism and tourism industry should be regarded as retail service activities in the first place. Therefore, manufacturing, construction, advertising and investment firms are excluded from the tourism industry. We conceive his understanding as conforming to the spirit of WTO's definition.

Thus, we define the following:

1. **Tourism** - Tourism is the aggregate of all businesses that directly provide goods and services to facilitate business, pleasure, and leisure activities away from the home environment.

2. **Tourism Industry** - Tourism industry is a service industry that encompasses all the business sectors that provide tourism goods and services.

3. **Tourism Sectors** - In this study, the major businesses in the tourism industry listed under the Standard International Classification of Tourism Activities (SICTA[3]) are identified. Figure 1.2-1 (p8) shows the 6 broad tourism sectors. They are Accommodation, Travel Company Services, Transport, Recreation, Shopping and Other Tourism-related Services.

4. **Foreign Direct Tourism Investment** - Any capital investment by a resident of one economy in any economy other than that of his own in the six tourism sectors defined above should be considered as Foreign Direct Investment in Tourism, referred to as FDIT hereafter. This kind of direct investment reflects the objective of obtaining a lasting interest of the investor. The lasting interest implies the existence of a long-term relationship between the investor and the enterprise invested and a significant degree of influence on the management of the enterprise (OECD 1996).

5. **Economic Impact** - As researchers have found, social, psychological and

environmental impacts of tourism are inter-related with economic impacts. Thus the tourism industry attracts the interests of researchers and academics from many disciplines: historians, geographers, anthropologists, economists, psychologists and government officials (McIntosh 1995). In our study, we assume any factors other than economic do not affect the tourism economic operations. In other words, what we are concerned with are the impacts within the boundaries of macro-economics in terms of the following economic indicators:

A. Gross Domestic Product (GDP) - The total value of goods and services produced less capital flows over a period of time in an economy. We use GDP as a measurement of the contribution of the tourism industry, because GDP is a most relevant tool for measuring both the size of different industries and the contribution of a specific industry to a nation's economy. It is a measure of the "value added" by various industries. (Smith 1988).

B. Employment - A measure of the tourism's contribution in terms of full-time jobs. Tourism industry can bring along more job opportunities than other industries. We also use capital-employment ratio to measure tourism's contribution to employment.

C. Personal income - Remuneration accrued to the employees of tourism sectors by the employers only.

D. Tourism industrial structure - The total quantity of the stock of enterprises in the tourism industry and the cross-sectoral relationships, proportions between and within the tourism sectors. In our study, this indicator is used to reflect the degree of

concentration caused by FDIT through horizontal or vertical integration.

E. Technology transfer - A qualitative measure to reveal whether there are superior technologies including skills transferred from the foreign investor to the host company or staff.

Summary

Chapter 1 introduces the background of the study. The whole study is set in the APEC region. The growth of the tourism industry and the policies towards foreign investment in the member economies prompts the author to present a deeper understanding of the issues related with the economic impacts of foreign investment in the tourism industry. Three types of economies are identified as the representative of the 18 APEC members. Research area is clarified and a rationale is provided to justify the value of the study. With this setting, research objectives are formulated and working definitions are framed specifically. Thus, this chapter provides a platform for the following chapters to be unfolded.

Chapter 2. Literature Review

The literature review covers a broad area of tourism-related disciplines. The topics reviewed include tourism economics, research methodology, input-output analysis (IOA), cost-benefit analysis (CBA), multiplier effect studies, theories and evidences on foreign investment. Sources of reference come from academic books, social science journals, research monographs of WTO, WTTC and PATA. These references reflect the perspectives of academics, governments, inter-governmental policy makers and researchers within the tourism industry.

Among all the references available, few of them tackle the area of economic impacts of tourism investment, though a number of sources have mentioned that this is an important area of studies. (Pearce 1989; Lundberg 1995)

2.1 Supply-Side Definition of the Tourism Industry

Smith (1988) introduces a supply-side definition of tourism in the Canadian context. One of its features is that tourism is regarded as the aggregate of all *retail service businesses*. The definition of *retail service businesses* helps to "avoid the questionable merits of those including automobile manufacturing, gasoline refining, hotel, airport and road construction, craft and souvenir manufacturing, advertising, investment firms, and other indirect or whole-sale economic activities as part of the tourism industry". When tourism businesses are thus identified, a *tourism ratio* is assigned to each business category. The tourism ratio is the percentage of revenues associated with tourists versus total revenues of the business, and is obtained through three Canadian national surveys (Table 2.1-1 is an example of the application of the tourism ratio). The introduction of the concept of the tourism ratio greatly facilitates

the researchers to quantify the contributions attributable to tourism. It also makes plausible to establish a 'more credible and acceptable' supply-side definition of tourism. A key strength of the supply-side definition is that it permits one to conceptualise and measure the tourism industry in a way that is consistent with other economic sectors.

Table 2.1-1: Tourism Ratio of Selected Tourism Businesses in Canada, 1981

Category of Tourism Business	GDP at Factor Cost	Tourism Ratio	% of GDP
	billions $	%	billions $
Air transportation	2.04	78	1.59
Rail transportation	3.76	11	0.41
Water transportation	1.22	7	0.09
Bus transportation	0.15	100	0.15
Urban transit systems	0.96	14	0.13
Taxicab operations	0.46	30	0.14
Services incidental to transport	0.68	75	0.51
Other transportation	0.29	24	0.07
Gasoline stations	1.53	25	0.38
Motor vehicle dealers	2.48	25	0.62
Motion picture and drive-in theatres	0.13	47	0.06
Recreation and amusement	1.53	47	0.72
Accommodation	2.87	86	2.47
Restaurants, caterers and taverns	5.05	15	0.76
Car rental	0.68	30	0.20

Source: S. Smith 1988. The businesses in the first column are mainly transport, catering and lodging services. The third column shows the tourism ratio from survey results as a percentage of GDP at factor cost. The fourth column shows the tourism contribution to GDP.

Table 2.1-1 is a simple yet clear way of presenting the contribution of tourism. It is simple in that what we do not have to change the classifications of the existing national surveys and census. The method also makes it easy to incorporate the

tourism contribution in cross-tabulation with other economic sectors. Compared with other methods that we are going to review, the tourism ratio is the most convenient, economical and yet reliable way to measure tourism contribution. Smith (1988) concludes that applications of the tourism ratio method in Canada prove to be economical and effective.

While the controversy over whether tourism should be regarded as a homogenous industry, WTO and many researchers refrain from trying to specify details of tourism as supply activities. They would rather keep the definition evasive and vague. To address this growing concern over this issue, WTO is promoting *a satellite account for tourism* under the system of national account (WTO 1996). It is hoped that this initiative will greatly facilitate tourism economic research in supply-side perspectives.

The core concept of the satellite account for tourism is to construct a special account, affiliated to the National Account like a satellite. Economic information of tourism is kept in these two strata with the former specifically dealing with tourism activities. The two accounts use the same set of classifications, definitions, principles or recording and methods of compilation. The satellite account for tourism thus constructed will better reflect the position of the tourism industry in the national economy, and at the same time it translates tourist activities into supply-side activities. Thus, even if a researcher needs some data in his analysis, Which are not compiled in the satellite account (which is supposed to be fairly well disaggregated to satisfy the needs of most studies), he would conveniently extract such data from the National Account, avoiding the tedious work of disaggregation.

2.2 Previous Studies

2.2.1 Methods to Measure the Tourism Economic Impacts

Lundberg, Stavenga and Krishnamoorthy (1995) give a full account of the magnitude of tourism's economic impacts. Tourism and its perceived costs or benefits cannot be quantified easily and manipulated into an economic model. The quantitative models need to have descriptive elements in order to relate them with economic reality.

Since late 1970s, methods for evaluating tourism economic impacts have been developed. Kottke (1988) classifies them into four basic methods: the inventory-budget method; input-out analysis; economic base analysis; and cost-benefit analysis.

The inventory-budget method summarises the total value produced and the total resources used by a firm, an industry, a proposed project, an economy or whatever unit is to be evaluated. This method appears to be a diary account and thus too simplistic for in-depth analysis. And also, the seemingly simple method may not be easily to be applied to a cross-boarder service industry like the tourism industry. Unlike trade in goods, the value-adding process in trade in services is not easily to be traced in the flow of service itself.

Input-output analysis is a rather powerful yet complicated tool to measure the economic significance of an economic activity. It is to find how much can be left over for consumption (demand) and how much output will be used up in productive

activities to obtain a final net output. An IOA model can be used to estimate the amount of income, employment, and production that are required to satisfy a given level of tourism demand. Besides, the method can generate multipliers, another popular indicator used in tourism impact studies in the 1970s and 1980s. The problem with this method lies with the difficulty to derive a technical coefficient matrix, because up to now no national account provides a disaggregation of tourism activities detailed enough to facilitate the IOA model.

Economic base analysis is used at the local or small-region level. However, since this method is really no more than a two-sector version of IOA, it has some of the same drawbacks as the IOA.

Cost-benefit analysis is used for purposes closely related to economic impact analysis and policy making. This method applies primarily to the evaluations of development proposals, effectiveness of project or program in the course of implementation in the public goods and services sector. The strength of the method is that it can incorporate non-statistical consideration (externalities) into analysis.

Among the above four methods, IOA and cost-benefit analysis are becoming more acceptable and widely employed methods in tourism economic impact studies. Let's give a closer look at the properties and applications of them.

A. Input-output Analysis

Yan (1969) states that IOA is primarily concerned with the methods of analysing interdependence among the industries or sectors of an economy. Tourism happens to

be an industry heavily dependent on other industries. Therefore, if we were to understand its economic impacts, we have to get a clear notion of the economic linkages between the sectors related to the tourism industry. IOA allows us to evaluate the total effects, both direct and indirect, of any change in economic behaviour. To further complement the usefulness of the IOA method, Fleming and Toepper (1991) state that it can also tell about how different types of industrial activities affect an economy, how self-sufficient an economy is, where gaps in the structure of an economy exist, and where spending on different activities will have the most or least leakage from one economy to the others.

- **Applications**

Archer (1977a) is one of the earliest researchers to apply IOA in the field of tourism. He uses an IOA model to evaluate tourism's economic impacts in two small island economies, Bahamas and Bermuda. In his pioneering study the following values are measured: (a). the local value-added elements in each of the main tourism sectors of the economy; (b). the amount of household income generated within the economy by tourism expenditure; (c). the revenue received directly and indirectly by the government of the country from tourism; (d). the value of imports generated by tourism; and, (e). the size of the tourism income multiplier.

Unfortunately, Archer (1977a) does not compare the results of the economic impacts of tourism on these countries at the request the governments of the two countries.

Fletcher (1989) and Briassoulis (1991) make a historical review of the application of IOA in tourism economic studies. A number of developments enable the applications

of the technique to be more flexible to better reflect the reality of the economic impacts of tourism. The method is to construct a technical coefficient matrix with a vector of values of the issue in question. For example, Sadler, Archer and Owen (1973) constructed a matrix with a vector corresponding consumption patterns. With this vector incorporated into the IOA matrix, the model is capable to reflect the impacts of different income groups in the tourism industry. Similarly, Bryden (1973) and Wanhill (1987) has added a vector to their matrix to tackle the issue of capacity constraints, which reflects the capacity of one production sector to satisfy the need of another sector. Fletcher (1989) examines import effects. Archer and Fletcher (1990) incorporate labour supply effects. Despite these developments, researchers are cautioned to make careful modifications to an IOA model when applying to different countries or the same country at different times, because relationship between factors of production varies from country to country and from time to time.

Briassoulis (1991) spells out four methodological issues that must be taken into account. Substantive issues are about the validity of assumptions to construct an IOA model; aggregation issues concern the way the spatial, temporal and sectoral systems of study are defined. Applicability of an IOA model for long-term impact assessment has to take into account the structural change. It is now generally held that an IOA model is only good for forecasting for a period of 5 years (Yan 1997); intangible impacts deal with the scope and breadth that an IOA model can cover; socio-cultural impacts must be considered to provide a complete account of the economic impacts of tourism. Concerning the last issue, the present authors have a different view. Since the power of IOA analysis lies in the econometric capability, it is better to leave social and cultural impacts to other tools such as CBA, which will be

employed in this study.

• **Major Constraints**

One problem which researchers frequently encounter when using IOA method is data constraints manifested in disaggregation of tourism sectors. The method has the property of being data-hungry. If the industry is more disaggregated, the data would be more refined, thus the results would be more accurate. The best way is to establish a satellite account for tourism.

Meis and Lapierre (1995) use Canadian Tourism Satellite Account to fit in an IOA model. The satellite account and the model are developed exclusively on the structure of tourism supply and demand within the country. Thus the specific results of the study should not be expected to be applicable to other countries. However, we would say that the idea of developing a tourism satellite account as an extension of a country's national accounts system is transferable. The account's concepts, its overall structure, its definitions, and its calculation procedures may all be generalised.

The importance of the satellite account for tourism is recognised by the WTO and WTTC. WTO developed a first draft of "A satellite account for tourism" in 1993 and an ad hoc group organised by the WTO reviewed the manual in June 1996 for further development. It is hopeful that the organisation will publish a finalised framework that should prove instrumental in promoting consistent results on the measurement of the tourism economic impacts. The features of the satellite account for tourism are covered earlier in this chapter, we will not repeat here. The WTTC (1997) has

already used satellite account to study the economic impacts of tourism on Australia. The report of the study is already available at the organisation.

To sum up, IOA up to date is the most comprehensive tool to measure the economic impacts of tourism in both macro and micro aspects. However, before major changes are made to the national accounting systems, e.g., the establishment of satellite account for tourism, its application will be severely limited, especially to individuals and small institutions, who seldom can afford to avail the data needed in an IOA model.

B. Multiplier analysis

Archer (1977b) clarifies that input-output analysis is an effective tool in tourism economic impact studies. One of its strengths is that it can generate multipliers. He identifies four types of tourism multipliers in his benchmark work *Tourism Multipliers: the State of the Art*. The four types of tourism multipliers are listed as follows:

1. *Sales (transactions) Multiplier: It measures the effect of an extra unit of tourist spending upon economic activity levels in the economy. As the name implies, this multiplier relates tourism expenditure to the increase in business turnover which it creates.*

2. *Output Multiplier: It relates a unit of tourism expenditure to the resultant increase in the level of output in the economy.*

3. *Income Multiplier: It shows the relationship between a unit of extra tourist*

spending and the changes which result in the level of income in the area.

4. Employment Multiplier: describes the ratio of the direct and secondary employment generated by additional tourism expenditure to direct employment alone.

Archer (1977) holds that multiplier analysis is the most appropriate method to use for tracing the flow of tourism expenditure through an economy. Because an IOA model represents transactions between producers as well as between producers and consumers, it provides considerably more details of cross-sectoral relationships and linkages regarding the economy than alternative models. The technique is particularly suitable for answering policy questions about the regional effects of resource investment in tourism developments, or the relative magnitude of the impacts of tourism on each of the other sectors of the economy.

Other authors' view (Pearce 1989; Fletcher 1989; Lundberg 1995) echoes Archer's (1977). However, there are at least an equal number of researchers who are against the proliferation of tourism multipliers (Kottke 1988; Fletcher 1989; Hughes 1994; Lundberg et al. 1995; Fenich 1996). They find that tourism multipliers are frequently misunderstood and abused, because there lacks standardisation in both framework and model (hence the need for a satellite account as we discussed earlier in this chapter). Different researchers may use different data collection methods, construct different IOA models, define different attributions, different economic sectors for aggregation or disaggregation. These issues are not properly acknowledged. Taking Hong Kong's tourism income multiplier for example, three sources give very different values. Cooper et al (1993) report 0.87, Blaine (1993) 1.02, and Yan (1997)

quotes 1.16 for type I income multiplier and 1.94 for type II income multiplier (Type I multiplier reflects the direct multiplier effect, type II reflects direct, indirect and induced multiplier effects). None of the three authors, however, mentions the time peirod for the multiplier. This example indicates that multipliers might easily create pitfalls. Lundberg et al. (1995) observe that "it is not surprising if two researchers come up with somewhat different multipliers for the same country". The reasons for the different multipliers are now discussed as follows.

Hughes (1994) lists the downsides of tourism multipliers. First there is the data problem. Multiplier analysis requires large sets of detailed and accurate data. The compilation of such quality data is often too prohibitive to individuals in terms of both time and finance. It is not rare that data from other study areas or from the same area obtained at other times are used in analysis. This itself is a source of error, as the technique requires clearly specified study area and time period to compute a reliable technical coefficient matrix, which is the core of IOA. Due to these reasons, multiplier values are frequently incompatible, especially in cross-country comparisons. One researcher may develop a more detailed input-output table, while another may use a less detailed one; one may cover more economic sectors, another may cover less.

The second problem with multiplier analysis is attribution. It is arguable that what expenditures, how many jobs, how much income is attributable to tourism as multipliers only show us the ratios instead of absolute volumes. "*Estimates of indirect and induced income and employment are those with the most difficult empirical and conceptual problems. To go on to attribute these indirect and induced*

effects to any one category of expenditure, such as tourism, may be meaningless in that the claims of such effects from every industry will add up to more than 100%!" (Hughes 1994)

The third problem is with the restrictive assumptions to construct an IOA model. Multiplier models may assume a relatively simplistic linear relationship between expenditure and employment or income. Such assumptions will result in the multiplier values that have little or no long-term predictive value, especially for short-term events, and employment multipliers are least reliable of all.

The fourth is that multiplier analysis tends to obscure real relationship between expenditures and their economic impacts. Because the opportunity costs of tourist expenditures are generally ignored, the multiplier cannot in itself measure the real opportunity cost of developing one particular activity rather than any other.

Probably because of the controversy over the use of tourism multipliers, a recent WTTC/WEFA research stresses that it *does not use input-output multipliers to estimate the induced impacts of travel and tourism* (WTTC 1996). The research uses satellite account for tourism in an IOA model, where multipliers could be conveniently generated. Though the research does not explain why it makes a point here for not using multipliers, the implicit statement is clear enough.

C. Cost-benefit Analysis (CBA)

CBA has become a frequent aid in public decision making. CBA adopts a systematic categorisation of all favourable impacts as benefits and all unfavourable impacts as

costs in monetary terms, and then compares the costs and benefits to get the net benefits of a project or a program. It is concerned with social as well as individual, present instead of past or future costs and benefits. The objective of using net present social benefits is to provide a simple and straightforward benchmark to aid policy making, thus realising to the ultimate goal of more efficient allocation of society's resources.

- **Some Theoretical Issues**

The fundamental principles and theories of CBA find their origin in welfare economics and public finance. One early documentation of the technique was done by Richard Layard (1976). Fundamental issues of shadow prices, foreign exchange rate, discount rate, project life, social time preference rate, opportunity costs, risk factors and income distribution were accounted for. While in the same year, the Treasury Board Secretariat of Canada (1976) published a revised version of Benefit-Cost Analysis Guide. The new version highlights the similarities between benefit-cost analysis and other common techniques used in financial or market analysis, clarifies the conceptual basis of the CBA in measuring the costs and benefits of public investment projects and programs.

Although there is a plethora of literature on CBA, only sporadic studies are made in the field of tourism. The Treasury Board Secretariat of Canada (TBSC 1965) takes notice of the application in the evaluation of recreation projects, but finds it difficult to impute values to the services that the projects are going to provide, *particularly because the services provided are 'intangible' in nature. The value of such services may sometimes be underestimated because the services are not sold.* This question

remains to be a problem today when using shadow prices to services such as tourism.

Bryden (1973) compares the strength and weakness of CBA with IOA in their application in tourism economic research. He justifies the usefulness of CBA by an extensive case study on the economic impacts of tourism development in the Commonwealth Caribbean. He treats tourism services as intermediate social goods and concludes that *it is in the case of the intermediate social goods that CBA can perform most effectively* (Bryden 1973).

From the perspective of the production of welfare, Knapp (1985) contributes further to our understanding of the CBA on leisure facilities. He notes that in the actual production of the leisure services, the consumer plays an important and active role. It is thus correct to say that leisure products are jointly produced by the producer and the consumer. The consumer can, to some extent, control the quality of output. He labels this feature as 'joint production'. And also, leisure products are seldom homogenous: that is, we have multi-products that are closely related activities. Their production decision is one of both choosing optimal levels of outputs and choosing the optimal range of outputs. Thus, he contents, the multi-product output decision raises the question not just of economies of scale in output but also economies of scope. This means that there would not be a huge demand for any single product. If the service provider wants to make a good profit, he has to enlarge his business scale in order to lower the cost to attract more consumers with the same taste. At the same time, he also has to provide with a choice of products in order to attract more consumers with different tastes.

"We should also recognise that willingness to pay may not be a sufficient measure of received benefit, that externalities in consumption may be important, that profit-maximising behaviour may thus be inappropriate, and that decision makers may have conflicting interests because of their responsibilities for wider areas than just sports and leisure facilities." (Knapp 1985)

The above researchers look into the positive aspects of tourism. Fleming and Toepper (1990) draw our attention not only to the positive sides but also the negative aspects of developing tourism. Measuring the positive aspects only may well call into question the accountability and creditability of economic impacts studies.

While affirming the need for economic impact studies, Fleming and Toepper (1990) call for detailed studies on positive and negative costs to increase the long-term profits of the tourism industry. Opportunity costs, social and environmental costs of tourism should be considered. Opportunity costs include the monetary costs of development and maintenance of the site or area, along with an accounting of benefits lost by withdrawing the resource from its present or alternative uses. Social and environmental costs include the effects of congestion, destruction of coral reefs and erosion of beaches, crime and prostitution, vandalism, cultural degradation, pollution of lakes, and so on. However, they admit the practical difficulty to translate these costs of tourism in monetary terms is difficult and often imprecise, *and many simplifying and subjective assumptions are often required in these cases* to produce any useful estimates.

It is now appropriate to introduce in one of the important features of CBA, externalities. No other economic impact technique can include externalities in its policy recommendations. CBA is prestigious in that it incorporates qualitative consideration (values that cannot or cannot easily be quantified) into quantitative analysis. For example, if we are talking about benefits of FDI, management skills brought by FDI into the host economy are seen as benefits, but such skills are at least not easily quantified in money terms. In such a case when immeasurable effects have to be taken into account, purely quantitative methods give way to CBA. We will come to this point in our later analysis in Chapter 4.

- **Empirical Applications**

The above section reviews some conceptual and theoretical aspects of CBA in relation to the tourism industry. In terms of empirical studies, though we have not yet found extensive application of the technique in evaluating the impacts of tourism or tourism-related foreign investment at a macro-economic level, a number of studies have been done in some small areas (Bryden 1973; Chitrakar and Weiss 1995; Gleason 1995).

Bryden (1973) employs standard CBA method to a hotel of 100 rooms with an assumed lifetime of 20 years. This is one of the earliest well-documented case studies especially in terms of methodology and analysis. One distinctive feature of this study is that the author makes careful uncertainty tests with two sets of variables: occupancy rate and interest rate. The values of the occupancy rate and interest rate are hypothetical. It is assumed that when one of the two variables changes, the other stays unchanged. In this way, the possible alternatives of the

output in relation to each of the variable are clearly projected.

Chitrakar and Weiss (1995) report the findings of a survey in Nepal in 1991. The survey covered all the 49 enterprises with foreign participation, among which 22 were valid respondents. In their study, foreign participation includes equity and non-equity (management agreements and franchising) presence, and both manufacturing and service businesses. And all the enterprises are categorised into three sectors: manufacturing, tourism and other services. The findings show that tourism and other services are not as profitable as manufacturing, and the average return of tourism is "loss-making"; that because the major part of the benefit to the Nepalese economy from foreign firms comes from tax revenues (44% of total profit), more generous tax incentives obviously will reduce the national returns and external effects do exist. However, their net effects are unlikely to alter the over-all beneficial impacts of foreign investment.

Gleason (1995) sums up a study evaluating a tourism planning project in a small city in the United States with a population of 25,000. The proposed project is aimed to attract 10,000 visitors to the city every year. The study shows that the increased tourists will generate $290,000 of expenditure, of which 40% will be retained in the local community; 5 full-time and 10 part-time jobs at an average wage of $2,500 per person will be sustained; $1,400 of tax revenue will be accrued to the local government. The author admits that some of the figures are "guesstimates" as they are difficult to be accurately quantified. Despite this, she concludes that development of tourism can be a positive economic step to a community, CBA provides a good framework to identify likely immeasurable but important costs and benefits of the industry.

2.2.2 When, Where and Why FDI Happens?

FDI is possible when the host economy has an investment opportunity but it is unable to exploit the opportunity with its own strength. It might lack the right technology, or it may lack the necessary capital, or it may also lack the required quality managerial skills in a particular line of business. On the other hand, the investor (usually one or more multinational corporation) is capable of or competitive in one or all the three elements: necessary technology, capital and managerial skills (Thomas and Worrall 1994).

Attitude towards FDI took radical changes form 1960s through 1980s. Before 1980s many countries maintained a rather cautious and even outright negative attitude towards foreign investment. But in early 1980s, there were swift changes of policy stance. Foreign investment became welcome and was seen as a "panacea" to most developing countries. However, the fantasy was short. Debt crisis followed quickly in early 80s. Countries began to realise that it had been unwise to borrow heavily from international banks or on international bond markets. It would be much better to raise capital through channels of foreign direct investment (FDI) and foreign portfolio investment (FPI) (United Nations 1989; Jansen 1995).

FDI is possible at certain locations where the value-adding activities can be performed at lower cost than at other locations. The foreign investor may have the following comparative advantages when operating at a given location. (a). The foreign investor has a wider sourcing of inputs, thus it can operate with economies of scale; (b). It may have a wider access to markets because of experience at different places; (c). It may have logistical advantage which can be used as a public good

within the organisation; (d). It may ensure product or service quality (including knowledge) through integration and concentration; (e). It may also exploit licensing and taxation advantages by operating in a foreign economy; (f). Only at the given location can it find immobile resources including cheaper or skilled labour; (g). Other things being equal, it may feel geographical, cultural and psychological closeness to the given location, e.g., friendliness of host government and people, similar language and culture. (Gomez and Sinclair 1988a, 1988b, 1991).

Traditional wisdom about the determinants of FDI seems invalid. According to studies (UN 1989; Bergsman and Shen 1996; Dunning 1996), cheap labour, policy incentives and political stability are no longer the prerequisites of FDI.

Cheap labour is valid only when there exists attached technical know-how, for labour cost is less decisive when compared with the role that technology plays in the course of production and distribution. Policy incentives (mainly tax holidays, tax credits and exemption, reduction of duties) provide little incentive and can be problematic in the longer run. Such incentive strategies favour new investors and discriminate against existing ones; favour foreign investors and discriminate against domestic ones. A recent study (Lan 1996) conducted in China's coastal city of Dalian confirms the above observation. The study finds that only 17 % of FDI projects and 6% of FDI investment were attracted to the city by various incentives between 1985 - 1992.

Experience shows that a stable, automatic tax system with reasonable rates and without discretionary incentives is better for both foreign investors and the host

economy. Political stability results in more open economic environment. The United Nations (1989) and the World Bank (Bergsman and Shen 1996) find that in the host economy several factors that constitute the general business environment are important determinants for FDI flows. These factors are: adequate legal protection, liberal foreign exchange systems, basic infrastructure (such as communication, transportation, power, water, etc.), overall economic performance, and host government support.

In the case of host government support, the government should be an investment promoter and facilitator instead of as mere regulators in areas such as providing information, follow-up assistance, solving administrative problems, upgrading technology, labour skills, general and specialised training. Though these services are government responsibilities, they are best delivered by private institutions. Overall economic performance in the host economy is important because observation finds that FDI tends to follow growth instead of leading it (China Association of Mayors 1993; Bergsman and Shen 1996).

Researches in FDI used to focus on trade in goods. It was not until 1980s that attention was given to trade in services, especially when this issue was raised in multilateral trade talks of GATT[4] and these talks subsequently led to GATS[5]. United Nations conducted the first comprehensive study on FDI in services in 1989. The study finds that FDI plays a particular important part in trade in services because, unlike goods, services have a distinctive characteristic of intangibility, i.e., they cannot be stored. Thus their production and consumption must occur at the same time and at the same place, many services can be delivered to foreign markets only if

they are produced in those markets by transnationals (UN 1989).

The above understanding might be a correct interpretation of the rapid growth of FDI in services starting from the 80s. By the mid-1980s, about 40 per sent of the world's total FDI stock of about US$ 700 billion was in services. FDI in services has increasingly become the most dynamic part of the growth of FDI in general. During the first half of the 1980s, more than half of total investment flows of about US$ 50 annually was in the services sector. For example, in 1983, Australia had an inward stock of AU$8.5 billion FDI in services, 47% of the total FDI inflows to the country; Hong Kong in 1981 had US$2.4 billion, 55% of which are FDI inflows (UN 1989).

2.2.3 Perceived Economic Impacts of Foreign Direct Investment

FDI is perceived to have the following effect on the host economy:

• Promote economic growth

FDI helps narrow the gap between domestic savings by stepping up capital formation in the host economy, and thus bring the economic potentials of the host economy into play. It may create forward and/or backward linkage effects in the host economy, by using host goods and services as intermediate products or producing goods and services to be used by the host economy as intermediate products. It helps the reallocation of factors of production within the transnational corporations to achieve optimal efficiency, which in return provide to the host economy a whole package of visible and invisible assets. These conducive effects combined could promote economic growth. It is estimated that about 1/3 of the world output is produced by transnational corporations.

- Expedite international division of labour

Transnationals are the major source of FDI. One reason for this is that the multinational would exploit the advantages of horizontal and vertical integration where production process is divided into relatively independent parts and finished at different locations in the world. The advantages of this division of labour may include lower production cost, better efficiency and more competitiveness.

- Foster international trade and technology transfer

Of all international trade, 1/3 is done within multinational corporations (Li 1995). FDI by transnationals not only fosters international trade in goods, but also promote trade in services. Transnationals help foster, to a certain extent, the exchange-ability of service. Thus they are responsible for the rapid internationalisation of the tertiary industries such as banking, insurance, securities, transportation, tourism, advertising, consultancy and construction. Transnationals are also the major player in technological innovation and technology transfer. About 80% of the total value of technology transfer happens within transnationals (Li 1995). The external effects of this kind of technology transfer are perceived as conducive especially to the improvement of technological standard, growth of technology-intensive industries and the service industries of the host economy.

- Speed up regional economic integration

FDI is a major promoter of regional integration. Studies of the transnationals and empirical experience in the APEC region prove that transnationals are adopting regional development strategies. Such regional strategies strengthen and speed up the

regional integration process. The development of regional integration in return will bring about more investment opportunities.

Host economies, especially developing economies used to be very cautious about FDI. They were cautious for good reason: FDI may have negative effects on the host economy. The negative effects include environmental impacts; concentration of FDI in a few economic sectors which may lack radiation to other industries in the host economy; possible structural imbalance between industries; transfer price practice of the multinational that incurs tax and trade losses to both the host and home economy; multinational may suppress the growth of local enterprises, basing on its monopolistic advantages (Li 1995).

With regard to developing countries on industries dominated by foreign capital, Bryden (1973) and Chen (1990) point out that there are several reasons why foreign domination is not acceptable to many developing countries. First, the objectives of foreign investors may conflict with the host's national objectives. Second, the inflow of foreign capital is sensitive to the host's policies, dependence on this inflow will limit the freedom of economic policy manoeuvres of the host government. Third, foreign investors may have easier access to local capital through foreign owned banking institutions. This would hinder the growth of the host firms. Finally, economic benefits of foreign capital, viewed within the broader scope of CBA, are frequently insufficient, and that this constitutes a major reason for unacceptability to the host economy. "Although there are other reasons why developing countries are wary of the dependence on foreign capital, one may note that these disadvantages apply to any industry which is developed on the basis of foreign capital, and that

tourism may be at less of a disadvantage here than other industries in view of the fact that technological limitations to local ownership would appear to be less significant" (Chen 1990).

2.2.4 Foreign Direct Investment in the Tourism Industry

Forsyth and Dwyer (1993, 1994) are the few researchers looking at the issue of foreign tourism investment, basically in a context of the Australian economy. They use CBA as a framework to systemise and compare the different effects of foreign investment in tourism under different assumptions. The foreign investment is the *expected* amount rather than *realised* amount because of the difficulties in data collection. Some other impacts, besides economic impacts, are identified, and some popular misconceptions about the implications of foreign tourism investment are clarified. Their studies find that foreign investment has positive impacts overall on the Australian economy. Foreign investment may have a positive influence on tourism industry structure through diversification of products and services. It may *indirectly* increase tourism flow through better marketing and product quality, and through lower prices resulting from competition and lower costs. Perceived negative impacts, whether economic or socio-cultural or environmental, can be compensated by better policy formulation. It is generally held that repatriation of profits and imports constitute major leakage. Dwyer and Forsyth (1994) clarify that this is a misconception, at least based on the Australian experience.

2.3 Summary of Chapter 2.

Chapter 2 presents to the reader a two-stream literature review. One stream is about the theoretical tools available to measure the impact of an economic activity. This

part reviews three popular methodologies and their applications in the field of tourism: input-output analysis (IOA), multiplier analysis (MpA) and cost-benefit analysis (CBA). The other stream is about the existing theories on foreign direct investment and mainly conceptual studies of its impact on the host economy. It is found that though foreign direct investment is a wide spread phenomenon in the tourism industry, little academic exploration has been done in this regard.

The following table is aimed to give an intuitive presentation of the theories and the main finding of their application reviewed in this Chapter.

Table 2.3-1 A Summary of Economic Methods

Method/Theory	Main Findings		
	Strengths	Limitations	Application to the Tourism Industry
IOA	A powerful quantitative tool. Produces accurate projections; Describes the inter-sectoral linkages (inputs and outputs) to the very detail; Can produce multipliers.	Most costly. Data hunger, in terms of not only long time series, but also very detailed quality sectoral data. In most cases it is impossible to get primary data by individuals.	Case studies are con-ducted mostly in developed countries where secondary data can be used. World Tourism Organisation is promoting The National Satellite Account for Tourism.
MpA	Straightforward tool for policy makers. Several models can produce different types of multi-pliers for specific questions.	Not very accurate because model building is subject to.linear assumptions; Forecast should not exceed 5 years.	Has been popular to describe tourism's contri-bution (especially tourism investment's contribution) to the national or local economy.
CBA	An important aid to public policy making. Straightforward in that costs and benefits are compared in present value; Emphasises social cost and benefit; Can incorporate externalities into evaluation.	Results may vary according to the analyser's standpoint. At times incommensurate costs and benefits are difficult to quantify.	Is becoming popular as public finance is involved in many tourism projects and the social welfare aspects of tourism are getting recognised. Can be employed to evaluate tourism's social, environmental impacts on the economy.
FDI's Impact	Enhances capital formation without unsing domestic saving; Promotes foreign trade. Fosters technology transfer. Brings about industrial integration and international division of labour.	May cause structural imbalance. May suppress the growth of local enterprise with stronger marketing, research and development capabilities. May result in monopoly and foreign control in certain industries or the national economy	Tourism industry as a service industry is becoming one of major areas of foreign direct investment. Attempts are being made to use FDI theories in trade to interpret FDI activities in the tourism industry.

Chapter 3. Tourism Industry Profiles of the Three Economies

As there is plenty of introductory information about the three economies and the profiles of their tourism industry, a brief introduction to each economy is presented as background information.

3.1 Australia

Tourism in Australia was not perceived to be an important industry until 1983. Before this time the focus of international tourism was on outbound travel (Hall 1994; Richardson 1995; Go and Jenkins 1997). Since 1983 the tourism authorities began to take steps to promote inbound tourism. The industry has seen remarkable growth (Table 3.1-1). From 1986 to 1997, the tourist arrival had an average growth rate of 10%; while during the same period, the growth rate of inbound tourism receipts hit 14.5%. The inbound tourism receipts make up about 15% of total export earnings and contribute about 2% to GDP.

Australia's tourism industry is becoming increasingly Asian-oriented in its tourist profile (Table 3.1-2) as a result of the booming outbound travel in the region. In 1990 Japan replaced New Zealand as the largest inbound market (Hall 1994). In 1996, tourist arrivals from Asia took up more than 50% of the total arrivals, while the visitor nights spent by Asian tourists took up about 40%. Between 1986 and 1996, North America lost 11 and 12% in arrivals and visitor nights. From the APEC perspective, the APEC economies contribute about 60% to Australian inbound arrivals and 50% to visitor nights. Together with the increase in Asian tourists, the FDI inflows to the Australian tourism industry from this area has been taking a predominant position, 75% of the total in 1986, and 85% in 1990 (Go and Jenkins 1997). (The subject of FDI will be discussed in detail in Chapter 4).

Table 3.1-1 Inbound Tourist Arrival and Receipt of Australia, 1986 - 1997

Year	Arrivals (million)	% change	Receipts (US$ billion)	% change	% of Export	% of GDP
1986	1.43	-	2.75	-	12.0	1.6
1987	1.79	24.9	3.65	32.7	13.8	1.8
1988	2.25	26.0	5.18	41.9	15.8	2.1
1989	2.08	-7.5	4.68	-9.7	12.7	1.7
1990	2.22	6.5	5.40	15.4	13.6	1.8
1991	2.37	7.0	6.31	16.9	15.2	2.1
1992	2.60	9.8	6.32	0.2	14.8	2.2
1993	3.01	15.1	6.73	6.5	15.8	2.4
1994	3.36	12.2	8.49	26.2	17.9	2.6
1995	3.73	10.8	10.08	18.7	19.0	2.9
1996	4.17	11.8	12.53	24.3	20.8	3.2
1997	4.32	3.6	12.59	0.5	19.4	3.2
Average	2.64	10.02	6.52	14.47	14.68	2.12

GDP values are income values at constant prices.

Source: Tourism Forecasting Council, Australia (1997); WTO (1996, 1997); Datastream International (1998).

Table 3.1-2 Dominant Asian Contents in Australia's Inbound Tourism

(in percentage)

Region	Arrivals			Visitor Nights		
	1986	1990	1996	1986	1990	1996
Asia	25	37	51	25	27	40
N. America	20	14	9	22	13	10
Europe	24	25	19	24	43	36

Source: Australian Bureau of Statistics

It is generally held in Australia that the tourism industry helps diversifying the export, improving the terms of trade, and creating employment opportunities (BTR 1992). And indeed, the tourism industry is the most important contributor to

Australian export earnings. Form 1995, inbound tourism receipts take up about 20% of export earnings, 13% of workforce, and 10% of government revenues (ATC 1998).

3.2 China

It was 1978 when China began to embark on massive development of the tourism industry. Before this time international tourism mainly served as a supportive channel to foreign affairs, and domestic tourism was not considered as an important business sector.

The opening of china to the outside world necessitated a growing demand for foreign exchange. But at the time being, there were few alternatives to cater to this need. Tourism seemed to be the best channel to help "develop export-oriented industries and products that are competitive and can bring quick and high economic returns" (Hall 1994). Since China had been closed to the world for more than 20 years, the opening of China brought in a sudden influx of tourists. Thousands of tourists came with strong curiosity, even though the facilities and service quality were almost non-existent in today's standards.

The tourism growth has been spectacular. In 1978 the Chinese tourism industry had one airline company, three travel agencies and about 200 hotels. In 1996, these figures were 28 airline companies, 4252 travel agencies, 4418 tourist hotels, and 160 coach & cruise companies, and 95 tourism-related trade companies. The industry directly employs 1.12 million people (Yearbook of China Tourism 1997). On the demand side, tourist arrivals in 1978 were 1.81 million and the expenditure was US$ 262.9 million. By 1997, tourist arrival and expenditure figures stood at 57.59 million, while tourist expenditure reached US$ 12.07 billion. Between 1986 to 1997,

the tourism industry had an average growth rate of 10% in arrival and 13% in receipts. The growth rate has been slowing down as the base number grew bigger (Table 3.2-1).

The inbound tourism appeared to grow faster than other export industries (Table 3.2-1). It is clear that the tourism industry had maintained a steady growth in its share of the export earnings and GDP over the years. Between 1986 and 1997, inbound tourist receipts had an average share of almost 5% in export earnings and about 1% in GDP. Such contribution does not seem to be impressive. However, the industry is seen as a "window industry" to foster trade and friendly exchanges with the outside world, and the growth rate has been impressive.

Table 3.2-1 Tourist Arrival and Receipt of China, 1986 - 1997

Year	Tourists (million)	% Change	Receipts (US$ million)	% change	% of Export	% of GDP
1986	22.82	27.99	1,530	22.4	5.7	0.5
1987	26.90	17.88	1,862	21.7	5.4	0.6
1988	31.70	17.84	2,247	20.68	5.5	0.6
1989	24.50	-22.71	1,860	-17.22	3.5	0.4
1990	27.46	12.08	2,219	19.3	3.6	0.6
1991	33.35	21.45	2,845	28.2	4.0	0.7
1992	38.12	14.30	3,947	38.7	4.7	0.8
1993	41.53	8.95	4,683	18.7	5.2	0.8
1994	43.68	5.18	7,323	*	6.1	0.9
1995	46.39	6.20	8,733	19.24	5.9	1.3
1996	51.13	10.21	10,200	16.8	6.8	1.2
1997	57.59	12.64	12,074	18.37	6.6	1.3
Average	34.24	10.15	4,578.69	13.6	4.85	0.75

* The huge margin between receipts of 1993 and 1994 is due to change of accounting method. In 1994 China began to adopt statistical standards recommended by the World Tourism Organisation.

Source: based on the *Yearbook of China Tourism Statistics 1996; Datastream International 1998.*

The economic importance of tourism has won recognition from the central government. This is reflected in a change of government's stance to the industry. For example, in 1986, tourism was for the first time included as part of the National Social and Economic Development Plan (Hall 1995).

China claims that it has overcome the major 'bottle-necks' to further growth in its infrastructure, such as transport, accommodation and communication. The future tasks that China faces are structural optimisation and quality improvement (Deng 1994).

3.3 Hong Kong

After two decades of rapid growth, the tourism industry has become the backbone of Hong Kong economy. Besides its own economic achievements and the strategic location as the gateway to China, Hong Kong also benefited from the prosperity and stability of the neighbouring newly industrialised economies. The former British colony was regarded as the Asia's most popular travel destination and a shopping paradise of the East. The territory began to host as many tourists as its population in 1987. In 1996, Hong Kong hosted 11.7 million tourists, almost twice as many as its own population (HKTA 1997).

Compared with many of its neighbours, Hong Kong lacks natural tourist resource. However, the tourist authority has been very successful in selling Hong Kong as a shopping and business destination (Go 1997). Per capita tourist spending is high and keeps on growing. An average tourist spent HK$ 4,619, HK$ 6,401 and HK$ 7,046 per diem in 1986, 1990 and 1996, respectively. And the average tourist consistently spent more than half of his money on shopping (HKTA).

From 1986 to 1997, Hong Kong registered an average growth of about 8% in arrivals and 14% in earnings. It means that the growth of tourist's per capita spending increased faster than that of the arrivals over the years. Tourism's share of export increased from 11% in 1986 to about 40% in 1997. Tourism became the largest export industry in 1996. In the same period, its share of GDP had been steady, at around 6%. This means that tourism as an export industry grew much faster than other export industries. 1989 and 1997 registered negative growth in arrivals. The slow down in 1989 was caused by the political turmoil in China. In 1997, the tourism industry was too optimistic about arrival forecast, reservation prices climbed to a historical high. And in the later part of the year, economic crisis swept across the Asian region. Both arrivals and receipts dropped (Table 3.3-1).

Looking into the future, the tourism authority of Hong Kong is making efforts to promote the Special Administrative Region as a destination of diversity, just as the promotional theme depicts: Hong Kong, Wonders Never Cease.

Hong Kong can be proud of its fairly well developed infrastructure, which is believed to be among the best in the world (Tym 1995). But, the aura of the territory as a shopping paradise diminishes because of marked high prices compared with other rivals in the region, new measures have to be put forward in order to maintain its competitiveness and improve the attractiveness. A number of huge projects are completed or planned. The multi-billion-dollar projects of the New Convention an Exhibition Centre and the new airport, considered as demonstrations of the state of the art, are already in operation. Proposed new tourism nodes include developing a

leisure island (Lantau), theme parks (Tsing Ma), marina water sports area (Shatin) and film/virtual reality city (Kai Tak Airport). These development packages still consist of many small components: information services, historical and natural sites, recreational facilities, shopping malls, hotels, festivals and transport facilities etc.

Table 3.3-1 Tourist Arrival and Receipt of Hong Kong, 1986 - 1997

Year	Arrivals (million)	% change	Receipts (US$ million)	% change	% of Export*	% of GDP
1986	4.05	10.66	2290.13	23.44	11.6	5.8
1987	4.92	21.49	3256.98	42.22	13.0	6.6
1988	6.17	25.41	4267.35	31.02	15.3	7.3
1989†	5.99	-2.92	4725.35	10.73	16.4	7.0
1990	6.58	9.85	5058.12	7.04	17.4	6.7
1991	6.80	3.34	5104.00	0.91	17.2	5.9
1992	8.01	17.79	6260.03	22.65	20.7	7.2
1993	8.94	11.61	7745.29	23.72	26.8	7.7
1994	9.33	4.36	8313.45	7.34	28.9	6.4
1995	10.20	9.32	9678.81	16.42	32.3	7.0
1996	11.70	14.7	10924.71	12.8	39.9	7.1
1997†	10.41	-11.0	9314.00	-14.7	34.1	5.4
Average	7.16	8.82	5918.32	14.12	21.05	6.16

NB: Expenditures of the mainland Chinese are not included before 1992.
* Re-export is not included. † Negative growth because of exogenous issues.
Source: based on *A statistical review of tourism 1986-1997*, HKTA; *Datastream International 1998.*

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Chapter 4. Research Framework

4.1 Research Methodology

As clarified in our literature review, each available economic model has its own strong points and weak points. Inventory analysis is straightforward in presenting data, but it is too simplistic. Input-output Analysis (IOA) is the most comprehensive method in tracing the economic impacts. However, it normally demands for too much resource in terms of personnel, time, money and data. Cost-benefit Analysis (CBA) is powerful in that it embodies both qualitative and quantitative considerations to identify the optimal policy solution, but it cannot be as accurate as other econometric methods. Multiplier analysis is best to accredit indirect benefits to an economic activity, but it is prone to be misused and less reliable. With these in consideration, the most suitable methods for this study would be cost-benefit analysis and multiplier analysis within a framework of comparative study.

Cost-benefit analysis is employed to delineate FDIT's impacts on industrial integration, foreign exchange leakage and externalities. The method takes accounts of the long-term net benefits, which can be obtained from increasing tourism activities or, in our case, from increasing foreign direct investment. It is especially useful to include externalities of investment into consideration.

In some literatures, externality is also referred to as external effect or spill-over effect. It means that a certain activity may incur costs or benefits, but these costs and benefits are not directly associated with any compensation or payment. It can be positive (benefit) or negative (cost) effect, depending on the perspectives of the researcher and the scale of the area under study.

For example, a public institution runs a good hotel training programme, from which the trainees come out to be competitive staff. Upon finishing the programme, everyone gets a better position in his work. And after some time the hotels in the area earns a reputation of improved services. However, the hotels that have benefited from the training programme do not necessarily pay to the training institution. This is an example of positive externality. The second example concerns City A at the upstream of a river and City B at the down stream. Some factories in City A drain wastewater out into the river without proper treatment. City B, however, has to spend more money on pollution control for drinking water. City A usually does not compensate City B for the cost incurred. In this case, City A exerts negative externality in relation to City B. However, in the perspective of a national official, the benefits (e.g. tax revenue) in City A and costs (e.g. financial subsidy) in City B may well even out: no external effects for the country at all. He may allocate a necessary amount of the tax income from City B to compensate City A.

It should be recognized and emphasized that externalities in the tourism industry are no less important than the direct economic effects. Some externalities are so vital to the quality or growth of our services, e.g. technology transfer (management, marketing, planning, training, even courtesy, etc.) and linkages with other sectors. For instance, high staff turnover rate is not regarded as good to the business concerned. However, staff turnover rate is one of the most important vehicles for technology transfer, which causes chain reaction of improved service quality and standards of many service industries such as tourism (Karl et al. 1993). With regard to externalities of inter-sectoral linkages, macroeconomics holds that an economy would be healthier and stronger when each industry can source its input from each of other industries

within the economy, because the economy concerned does not have to be dependent on a foreign economy to source the inputs needed for sustaining the production, and at the same time, the economy concerned does not have to worry about foreign exchange leakage as a result of imports of inputs needed for production.

Multiplier analysis, on the other hand, is appropriate to analyse short-term economic impacts. It comes in when the policy objectives are concerned with the maximisation of the benefits to the given sectors or regions of the economy. Its emphasis is not with the efficiency of resource allocation, which is best dealt with by cost-benefit analysis. The multiplier analysis is particularly suitable for answering policy questions about the regional effects of resource investment in the tourism industry on each of the other sectors of the economy (Archer 1977).

The cost-benefit analysis coupled with multiplier analysis, is an analysis of both qualitative and quantitative, static and dynamic. Such a combination allows us for making up some of the downsides of the other analytical methods. Compared with input-output method, the combination is also much less demanding in data. It is particularly practical in our case to study the macro impacts of FDIT. Because research in the area is relatively new, it still takes time for researchers to formulate models specifically designed for such purpose (Lundberg 1995).

Cost-benefit analysis with multiplier analysis can be organised in a framework of cross-economy comparative study. Comparative study has the strength of being able to identify particular factors that may not appear to be closely related within a given context, such as the patterns of foreign investment in economies at different economic development. After the identification of some particular factors concerned, the similarities and the differences among the factors could be possibly presented or contrasted. As a result, the properties of and relationships between the factors are

explicitly projected. Step by step, the process can contribute to problem selection by an elaboration of the specific factors, or contribute to the understanding and interpretation of phenomena. Accordingly, policy decisions could be made within the given contexts. As Pearce (1993) pointed out: "Comparative study is particularly advantageous in contrast to the cases that are often general and descriptive".

4.2 The Framework of Analysis

In order to apply the CBA and Multiplier analysis, a framework is developed to describe the relationships between the components of the study in a succinct and organic way (Figure 4.2-1).

Figure 4.2-1: Framework of analysis
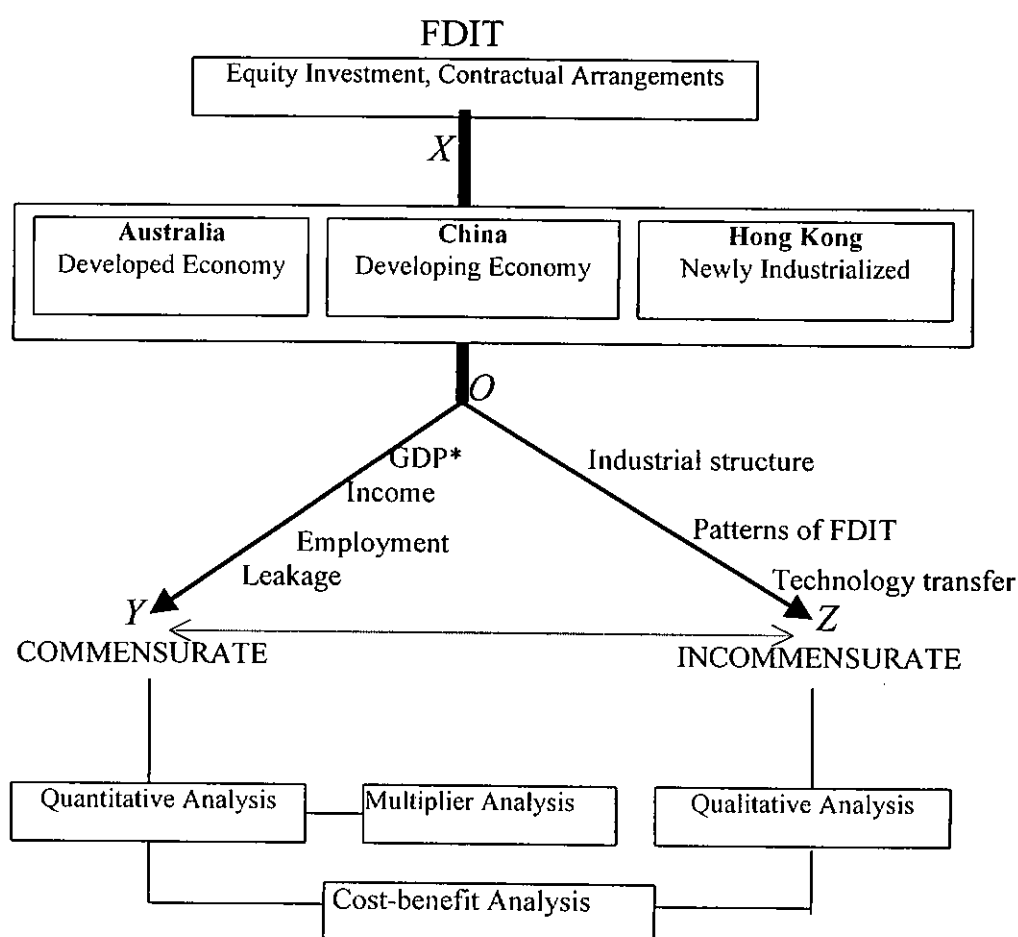
Note: This framework is derived from Lan (1996). *GDP = C+I+G+X-M, where C is consumption, I is investment, G is government expenditure, X is export, M is import. Since the output of FDIT is one part of the total output in a given economy, i.e. its impact on GDP.

In Figure 4.2-1, *X-O* stands for the FDIT inflows in a given economy. *OY* and *OZ* are two branches of the economic impacts, representing two groups of impacts, where *OY* shows the commensurate impacts and *OZ* shows the incommensurate impacts. The dotted line of *YZ* shows that the two groups of impacts are inter-related and have inter-reactions. On *OY*, all the quantitative impacts of FDIT are shown by three dependent variables related to GDP: personal income, employment and foreign exchange leakage. On *OZ*, all the qualitative are shown by three variables: industrial structure, patterns of FDIT and technology transfer. *YZ* represents the interactions between the commensurate and incommensurate impacts. When the net benefits are evaluated, the two groups of impacts are combined to form the area of *YZO*, representing the total benefits generated by FDIT.

4.3 Assumptions

When applying cost-benefit analysis, in our particular case of examining the impacts of foreign direct investment, we make the following two assumptions:

(1). It is assumed that all FDIT has no opportunity costs to the host economy. Opportunity cost of investment refers to the value of the other alternative use of the investment (Layard 1976; Gleason 1995). To illustrate this, suppose one plans to invest $1 million in a hotel project. The estimated average return of investment is $200,000 per year in a period of 10 years. If the $1 million were used in a recreational project (that is, the second best alternative use of the money), the estimated average return of investment would be $150,000 per year in a period of 10 years. In this case the opportunity cost is $150,000.

As discussed in Chapter 2, there are mainly three forms of FDIT: wholly foreign owned, joint venture and contractual arrangements. With the first two forms, the investment comes from outside our study area. The use of the investment is earmarked and the foreign investors most probably may not make the investment commitment in other types of projects in the host economy. The second best alternative use of this amount of money is non-existent to the host economy. Thus, there is no associated opportunity cost to the host economy.

Following the above argument, the inclusion of opportunity of FDIT cost would inflate the total cost to the host economy. Alternatively, it would reduce the benefits of FDIT. As CBA is only applicable within the study area, opportunity costs of FDIT should not be included in the analysis.

(2). It is assumed that all FDIT goes to commercial tourism projects, and the prices to get the products or services from the project fully reflect market prices. Thus, it is not necessary to consider the issue of shadow price. Shadow pricing applies to cases where the value of a commodity or service cannot be fully reflected by existing price or there is not a price charged at all (Layard 1976; TBSC 1976; Hnapp and Vicherman 1985).

4.4 Data Requirement and Data Collection Methods

This study will rely heavily on secondary data from national tourism administrations and statistical authorities. APEC Regional tourism data are collected from *Tourism Market Trend - World 1997, Tourism Market Trends East Asia and the Pacific 1997* (WTO 1998). Regional tourism forecast data are from *Tourism To the Year 2000 and*

Beyond .Vol. 1 (WTO (1997) and *Travel and Tourism Economic Perspective* of WTTC (1995). Annual FDI data of the three economies are sought from International Direct Investment Statistics Yearbook (OECD 1993-1997 issues), Datastream International (CD-ROM service, PolyU Library) and Japan External Trade Organisation (Jetro homepage, Internet).

Secondary data about Australia are collected from the following sources: FDIT data is from Foreign Investment Review Board's (FIRB) annual reports. Data about airlines, hotels and travel agencies are sourced from Australian Bureau of Statistics (ABS client services). Publications from ABS include Travel Agency Services Industry, Australia (irregular); Tourist Accommodation, Australia (various issues); Recreational Services, Australia (1994/95; 1996); and Profiles of Australian Business (irregular). Personal help is sought from China National Tourist Office (Sydney), which assists in the purchases of some publications. Tourism industry studies are sought from Bureau of Tourism Research (BTR) of Australia. BTR references include BTR Research Paper No.2: Estimating tourism's economic contribution; No.3: Tourism's direct economic contribution 1995-96; No.4: Tourism's indirect economic effects 1995-96.

Secondary data about China are mainly from the following sources: FDI and FDIT data are from The National Statistics Bureau. The Yearbook of China Tourism Statistics (CNTA 1990-1998) records data such as number of businesses, employment, output and business types (scale, ownership) of travel agencies, hotels, tourist coach & cruise companies. Airlines' data are collected from Civil Aviation Administration of China (CAAC).

Data about Hong Kong are mainly sought from the publications held in the local libraries. These publications include A Statistical Review of Tourism published by Hong Kong Tourist Association (HKTA). In this publication data such as arrivals and receipts, hotel numbers and their operational statistics, and airline statistics are compiled. Data about travel agencies are collected from the Travel Industry Council. Data about employment, wages are sorted from surveys such as Manpower Survey Report: Tourism Industry 1992,1996; Hong Kong Annual Digest of Statistics; Half-yearly Report of Wage Statistics 1986, 1990-1996; Annual Review of Civil Aviation in Hong Kong 1986/87-1996/97.

Other related but scattered data from published sources will be collected. These sources include government reports and journals, such as Balance of Payments and International Investment Position - Australia; Statistics of the First Census on the Tertiary Industry in China 1991-1992; External Investments in Hong Kong's Non-manufacturing Sectors; Annals of Tourism Research; Journal of Travel Research and EIU Travel & Tourism Analyst. These sources may provide with information about project evaluation, case studies, academic researches on related subjects, etc.

4.5 The Research Model

The study uses Keynesian investment multiplier model. The multiplier model shows the relationship between the changes in the investment and the changes in the output. The relationship can be expressed by the following equation (Chick 1983; Richie and Goeldner 1994):

$$\Delta Y = \frac{1}{1 - MPC} \times \Delta I \qquad (1)$$

Where

ΔY is incremental output;

MPC is marginal propensity to consume;

ΔI is incremental investment;

$\dfrac{1}{1 - MPC}$ is the investment multiplier.

From formula (1), it is clear that ΔY is positively correlated with MPC and also ΔI. When ΔI is given, the larger the MPC, the larger the ΔY; when MPC is given, the larger ΔI, the larger the ΔY. If ΔI is at unity, ΔY is then solely determined by the value of MPC. And if K is assigned to represent the multiplier, then the following equation can be derived:

$$K = \frac{1}{1 - MPC} = \frac{1}{MPS} \tag{2}$$

Where MPS is marginal propensity to save.

K means that when each unit of incremental investment, ΔI, is made, the output will be K times higher. Thus, K is commonly called the investment multiplier. It should also be understood that K could be positive or negative. Since $MPC + MPS = 1$, *then* $1 > (1- MPC) > 0$. Thus, when incremental investment is made (ΔI is positive), K must be positive, ΔY will rise by K times; when incremental investment is withdrawn (ΔI is negative), K becomes negative, ΔY will reduce by K times. Because of this understanding, the multiplier is also seen as a double-edged sword. If investment is increased, it will bring out much more output than the investment itself, the economy comes to a boom; if investment is decreased, it will cause the economy to suffer much more output decrease than the investment itself, the economy comes to a recession.

When applying the Keynesian multiplier model in our study, one practical problem

arises. Since MPC available from secondary data is social marginal propensity to consume, it will disguise the importance of that part of the marginal propensity to consume of FDIT. This means that the analysis would be skewed because real multiplier could be higher or lower than the social multiplier. To make up that error under the same assumptions of the Keynesian multiplier model, the following linear econometric model is formulated to express the multiplier relationship between the output and the foreign direct investment:

$$Y = a + bX + \varepsilon \tag{3}$$

Where Y is the output, a is the intercept, b is the slope, and X is the investment, ε is standard error. Here b equals the investment multiplier.

Note that equation (3) is useful to analyse the correlation level between the independent variable X and the dependent variable Y. As long as $b > 0$, it could be deducted that Y is positively correlated with X.

4.6 Summary of Chapter 4

Chapter 4 delineates the approaches to be used in the subsequent analyses. Following the discussions and comparisons of the Chapter 3, a framework of comparative cost-benefit analysis is tailor-made for this study. Details of the methodology are distilled into a simple diagram based on Lan (1996) for easy reference. Assumptions subjected to the framework are formulated to facilitate the workability of the models to be used.

Chapter 5. Comparative Study and Research Results

5.1 Foreign Direct Investment Inflows in the Three Economies

Among the three economies, all have seen large inflows of foreign investment. Hong Kong adopts a laissez-faire policy towards capital inflows and outflows. This is also reflected in the way that such statistics in manufacturing and non-manufacturing industries are collected by the Hong Kong Statistical Bureau. Unlike Australia and China, Hong Kong gets FDI data through surveys, and the data sets are recorded in accumulative stocks and net assets.

FDI in Australia has become a hot political issue in the last decade (Hall 1994). Japan has been by far the major source of FDI and FDIT inflows to the country. Concerns focused on the possibility and extent of loss of national control over tourism resources by foreign firms. It appears that the controversy is not over, but no substantial measure has been made to restrict FDIT inflows. It is generally believed that the Japanese investment is essential to the long-term development of the Australian tourism industry (Hall 1994; Richardson 1995; Go and Jenkins 1997).

Due to historical and ideological reasons, foreign investment was very limited in China before the reforms of 1978. The government economic program introduced in 1978 called for high levels of investment, and FDI was regarded to be one of the accelerating forces required for technology transfer, export promotion, and foreign exchange. Since China has been consistent in its attitude towards FDI and FDIT as well since the open policy, it has been reasonably successful in meeting its FDI objectives. Over the period 1986-95, total actual FDI in China grew at an average rate of 35.7% annually (Lees 1993). From 1994, China has been the second largest recipient of FDI after the US. Tourism industry was the first industry that opened to

FDI. The 'win-win' success of FDIT to both the host and the home parties not only boosted FDI growth for the tourism industry, but the whole country generally (Deng et al. 1994).

One must understand that there is a big gap between the contractual and the actual FDI made in Australia and China. Dwyer and Forsyth (1991; 1994) quotes that the ratio between the actual and contractual FDIT in Australia is 3:7 between 1981 and 1987. The gap is also large for China. Table 5.1-1 serves as an example. From 1986 to 1996, the average share of actual to contractual FDI is less than 6:4. The situation is especially worse between 1991 and 1995, when the actual FDI is way below its contractual figure.

Table 5.1-1 Foreign Direct Investment in China, 1986-1996 (million US$)

Year	Contractual FDI(A)	Actual FDI(B)	Percentage (B/A)	Contractual FDIT	Change %
1986	2,834	1,875	66.1	-	-
1987	3,709	2,314	62.4	-	-
1988	5,297	3,194	60.3	*138*	-
1989	5,600	3,392	60.6	*269.4*	95
1990	6,596	3,487	52.9	*104.2*	-165
1991	11,977	4,366	36.5	*238.8*	129
1992	58,124	11,007	18.9	*723.0*	203
1993	111,436	27,515	24.7	1,482	105
1994	82,680	33,767	40.8	5,383.7	263
1995	91,282	37,521	41.1	1,117.7	-79
1996	73,276	41,726	56.9	1,260.6	13
Average	37,734	15,299	55.93	1,190.8	70.5

Figures in italic are FDI in the hotel sector only. They are very much close to the actualFDI in the tourism industry, as before 1993 negligible amount of FDI was made in other sectors of the tourism industry.

Source: Based on *China foreign economic statistical yearbook 1994, 1996; Almanac of China Foreign Economic and Trade Relations 1986/1987-1996/97.*

The two columns in the right of the Table 5.1-1 give the contractual FDIT inflows and growth rate. There is no information as to how much of the contractual FDIT inflow is realized in each year. No speculation should be made in the light of the contractual and realized FDI ratio, because each industry has its own characteristics and the tourism industry is highly sensitive to the social, political and economic changes. Bias are expected in any statistical analysis when contractual FDIT inflow is used. But since no realized FDIT data is available in both Australia and China, contractual FDIT inflows remains to be the best measure in the analysis.

Table 5.1-2 shows the FDI and FDIT status between 1986 and 1996 in the three economies of Australia, China and Hong Kong. It is interesting to note that the amount of FDI and FDIT in Australia and China varies much more greatly than in Hong Kong. In Australia, the biggest gap in FDI inflow volume between two year's figure was found between 1995 and 1996. The difference is US$22.4 billion (FIRB annual reports); China had the biggest gap in FDI between 1992 and 1993, with a difference of US$53.3 billion (NSB 1994; 1996). In terms of average annual FDI inflows, China had a record of US$37,734 million, more than twice as much as that of Australia and almost 100 times higher than that of Hong Kong.

With regard to foreign direct investment in the tourism industry (FDIT) in the three economies, the yearly distribution is more uneven and it is especially so in China. In 1994, following a new set of laws to encourage foreign investment, the contractual FDIT for China was more than 2.6 times higher than that in the previous year. In Hong Kong and Australia, the highest growth rates are found in 1987 (220%) and 1993 (152%) respectively. The growth of FDIT in Hong Kong might be attributed to

the successful talks between Britain and China over the future of Hong Kong. For Australia, it was attributed to rising enthusiasm from Southeast Asia. The lowest drop for both China and Hong Kong was in 1990 after the political turmoil in Beijing, 165% and 66% less than in 1989 respectively, while with Australia the biggest drop was in 1994, 66% less than the previous year, mainly because of the economic problems in Japan.

Table 5.1-2 Contractual FDI and FDIT Inflows into the Three Economies (US$ million)

	Australia				China				Hong Kong			
	FDI	FDIT	Ch	%	FDI	FDIT	Ch	%	FDI	FDIT	Ch	%
	(A)	(B)	%	B/A	(C)	(D)	%	D/C	(E)	(F)	%	F/E
1986	12,284	1,033	-	8.4	2,834	-	-	-	206	60.7	-	29.5
1987	16,532	1,391	34.7	8.4	3,709	-	-	-	245	194.5	220	79.4
1988	23,138	3,610	160	15.6	5,297	138	-	2.6	359	194.1	-0.2	54.1
1989	20,585	3,272	-9	15.9	5,600	269.4	95	4.8	343	137.6	-29	40.1
1990	18,853	1,469	-55	7.8	6,596	104.2	-165	1.6	303	46.2	-66	15.3
1991	15,770	1,041	-29	6.6	11,977	238.8	129	2.0	348	133.6	189	38.4
1992	11,632	1,117	7	9.6	58,124	723.0	203	1.2	364	112.5	-16	30.9
1993	16,323	2,818	152	17.3	111,43	1,482	105	1.3	397	140.0	24	35.3
1994	17,171	958	-66	5.6	82,680	5,383	263	6.5	485	119.3	-15	26.1
1995	22,485	1,054	10	4.7	91,282	1,117	-79	1.3	679	53.4	-55	7.8
1996	44,860	1,801	71	4.0	73,276	1,260	13	1.7	942	101.9	91	10.8
Av.	18,303	1,630	25	8.7	37,734	1,190	70.5	2.3	389	107.8	31	30.6

Note: FDIT of Australia includes that in entertainment, parks and zoological gardens, sport and recreation, hotels an bars, accommodation, licensed bowling clubs, and licensed golf clubs. FDIT of China includes that in tourist hotels, entertainment, catering, golf clubs, attraction development. FDIT of Hong Kong includes that in restaurants, hotels and transport services.

As to the weight of FDIT to FDI, Hong Kong generally takes the lead by an average

percentage of more than 30% between 1986 and 1996. Australia comes the second with an average FDIT/FDI of 8.7% in the same period. China has a low FDIT/FDI average of 2.3%. It is unexpected because it was reported (Wu 1991; Deng et al. 1994) that in early 1980s, the rate used to be more than 50%. Most of the FDIT was made in the hotel sector. This may be proved by the sharp increase in luxury hotels in the country (Appendix 1).

5.2 FDIT and Its Impact on Foreign Exchange Leakage

When a tourism facility is foreign-owned or jointly-owned by the foreign and host economies, a proportion of the profits will be repatriated back to the foreign economy. Another proportion will be paid as salaries to foreign staff and part of this will again subsequently be repatriated. And in the course of business operations, a proportion of the profits are used to import goods or services to cater to the needs of the tourists. All these proportions of profits seem to directly leak out of the host economy. They stop generating benefits to the host economy. Thus the net benefits of FDIT are correspondingly reduced.

Sinclair (1991) examines the foreign exchange leakage of safari and beach tourism in Kenya. "The high leakage level for beach holidays is similar to that provided by ESCAP (United Nations Economic and Social Commission for Asia and the Pacific), which estimated a leakage from developing countries of between 75% and 78% for the case in which both the airline and hotels were owned by non-nationals, and between 55% and 60% for the case of a foreign airline but locally owned hotel. Even in the case of an intermediate income country such as Spain, the leakage percentage is as high as 58% when tourists travel in a foreign airline". Thus, Sinclair concludes

that the use of the national airline and local ground transport by tourists plays a key role in increasing the share of tourism receipts in a developing country.

More attention must be given to some forms of seemingly unimportant foreign investment. Such forms of foreign involvement include major contractual arrangement, e.g. management contract, leasing contract, franchise, technical service agreement and consultancy. The capital flow from the home economy is negligible but these forms of foreign involvement are very common and exerting far-reaching impacts on the development of hotel, fast-food, entertainment, transport on the part of the host economy in that they cause continuous leakage as well as positive economic impacts.

However, Sinclair's method (1991) of calculating leakage is misleading and may exaggerate the amount of leakage. For example, the expenditure that tourists pay for foreign airlines for international flights should not be regarded as earnings of the host economy at all, because this part of expenditure is usually paid directly to foreign airlines or their agents instead of host agencies. In the case of hotel, the extend of leakage depends mostly upon whether the host economy has the ability to satisfy the input needs of the hotel. Even the leakage is high in Kenya, it is still dangerous to generalise that the same would apply in other countries. A more recent study by WTO (1994) offers a new perspective to the issue and may contribute to a better understanding of the leakage issue. The study concludes that the smaller and less sophisticated the economy is (in relation to the ability of the economy to produce intermediate inputs for the tourism industry), the higher the leakage tends to be (Table 5.2-1).

The left column of the table represents small island economies and the right column represents some bigger economies, and presumably the bigger economies have more sophisticated economic supply and demand activities. The result seems to support the assumption that bigger economies have stronger ability to satisfy the inputs needed by the tourist industry, and thus the leakage rate is correspondingly lower. Please note that the WTO (1994) study also reports leakage rate for Kenya, it is markedly at disparity with that reported by Sinclair (1991). The exact reason for this disparity for the same country is not known, most probably it derives from the different methods used.

Table 5.2-1 Foreign Exchange Leakage in 19 Economies

Country	Leakage (%)	Country	Leakage (%)
Fiji	56	Kenya	22
Cook Island	50	Korea	20
St. Lucia	45	New Zealand	12
Mauritius	43	Yugoslavia	11
Aruba	41	Philippines	11
Hong Kong	41	Australia	Negligible
Jamaica	40	China	Less than 20
US Virgin Island	36		
Seychelles	30		
Sri Lanka	27		
Antigua	25		
Cyprus	25		

Source: WTO 1994. Leakage level for Australia is based on Dwyer and Forsyth (1994), for China is based on Yan (1997)

In a separate study, Dwyer and Forsyth (1994) believe that the view that increased FDIT leads to more leakages only rests on a misconception. They argue that FDIT may either replace or add to domestic investment instead of crowding out domestic

investment that causes higher leakages: if a foreign firm purchases an existing tourism facility in the host economy, that is replacing domestic investment. The capital received from the sale of the facility can be invested elsewhere and presumably the capital is able to generate at least as much profits from the tourism facility in question. Alternatively, the capital from the sale can be used to repay foreign debts.

If a foreign firm chooses to construct a new tourism facility instead of purchasing an existing one, then the investor must pay suppliers for all the inputs used in the development. That is to say, the investor pays for the profits. While domestic investors can invest in the same line of business or in something else. Thus FDIT adds to total investment and over the longer run, there is no overall leakage, since if there is not potential profits for the foreign invester, FDIT would not have occurred.

As to the question of the extent of import leakage, it basically depends on the price and sophistication of the manufacturing sector, or services in the case skills and knowledge have to be imported. Foreign investors aim at a bigger profit margin, they will purchase the most cost-effective products. Thus foreign ownership does not imply greater use of foreign sourced inputs (Dwyer and Forsyth 1994). They will import only when of the host economy fails to provide cost-effective products or services, or in other words, there exists non-competitive imports. In such a case, a domestic investor will also make imports to satisfy tourists needs.

In the case of leakage through payments to foreign staff in the tourist industry, although such data is not available, if the percentage of foreign staff can be used as a

proxy to the extent of such leakages, it can be concluded that such leakage is not substantial. In a survey covering a total of 14 foreign-owned hotels in Australia, only 98 of 5,479 employees are foreigners (Dwyer and Forsyth 1994). In the US insurance and hotel sectors, only over 2% of the staff are expatriates (Karl et al. 1993).

5.3 Output, Personal Income and Employment

This section examines the economic impact of FDIT on the output, personal income and employment in the three economies.

5.3.1 Output

Using data from 1986 to 1995 (Appendix 1 and Appendix 2) in the Keynesian multiplier model

$$K = \frac{1}{1 - MPC} \tag{2}$$

the output multipliers of the three economies can de derived (Table 5.3.1-1).

Table 5.3.1-1 Output Multipliers of the Three Economies

Year	Australia	China	Hong Kong
1986-1995	3.91	2.27	3.45

Source: the author's own calculation.

From the above table, it is found that Australia has the highest value of 3.91 for the period of 1986-1995. Hong Kong comes to the second and China he last in multiplier values, at 3.45 and 2.27 each.

The result suggests that Hong Kong uses more of its incremental income for savings

or reinvestment instead of on consumption than Australia, and China uses still more of its incremental income for savings or reinvestment than Hong Kong.

To put the result in other words, every one additional unit of investment can bring on average for the period 1986-1995 about 3.91 units of benefit in Australia, 2.27 units of benefits in China and 3.45 units of benefits in Hong Kong. Thus, it can be concluded that in terms of the impacts on output, FDIT is most effective in Australia (developed economy), less effective in Hong Kong (newly industrialised economy) and least effective in China (developing economy).

In China's tourism industry, FDIT seems to perform better in the hotel sector than in other tourism sectors. The output of foreign-invested hotels is highly correlated with the respective foreign direct investment (FDI). Using data available from 1990 to 1994 (Table 5.3.1-2a) in the linear equation $Y = a + bX + \varepsilon$, the following result is derived: meaning the output of the foreign-invested hotels are highly correlated with the FDI in the sector (Table 5.3.1-2b: Multiple R value is 0.90358); the multiplier of FDI is 3.86 (Table 5.3.1-2c). Actually this figure could be interpreted as China's FDIT multiplier for the period between 1990 and 1994. For in that period, the hotel sector is the only sector in the tourism industry open to FDI. According to the data available, more than 99% of the FDIT have been made in the hotel sector.

Table 5.3.1-2a FDIT in China's Hotel Sector and the Output (US$ million)

Year	Hotel FDI	Output
1990	104.24	6,336.50
1991	238.83	8,791.10
1992	722.99	12,875.10
1993	1481.53	21,254.70
1994	5019.44	27,049.70

Source: Almanac of China's Foreign Economic and Trade Relations, 1994-96.

Table 5.3.1-2b Correlation Result Using Data of Table 5.3.1-2a

	Column 1	Column 2
Column 1	1	
Column 2	0.903578	1

Source: Author's calculation.

Table 5.3.1-2c Regression Result Using Data of Table 5.3.1-2a

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	9415.143	2501.572	3.764	0.033	1454.017	17376.27	1454.017	17376.27
X Variable 1	3.862993	1.057479	3.653	0.035	0.49762	7.228365	0.49762	7.228365

Source: Author's calculation.

5.3.2 Personal Income

In China, FDIT's contribution to the income of the employees is substantially higher than the host enterprises (Appendix 1). From 1988 to 1996, the average monthly personal income of foreign-invested enterprises is about 1.6 times higher than that of the all hotel and recreations enterprises and 1.2 times higher than that of the all travel agencies. During the same period, there is a tendency of growing gap between the personal income of foreign-invested enterprises and that of the local enterprises.

Using FDIT hotel data from 1989 to 1996 (Table 5.3.2-1a), Multiple R value reaches 0.976 (Table 5.3.2-1b), showing that the change of personal income is highly correlated with the change of output in the foreign-invested hotels. This means that with the growth of the output of FDI hotels, the income of their employees grows correspondingly, though at a lower rate. During the years between 1989 and 1996, the output of the FDI hotels grew at an average rate of 32% and the monthly personal income grew by an average of 20%.

Table 5.3.2-1a The Output and Personal income of FDI Hotels in China

Year	Output (Yuan)	Growth (%)	Personal income (Yuan)	Growth (%)
1989	4,961.50	-	358.2	-
1990	6,336.50	28	394.1	10
1991	8,791.10	39	457.1	16
1992	12,875.10	46	571.6	25
1993	21,254.70	65	714.5	25
1994	27,049.70	27	907.4	27
1995	31,550.30	17	1,070.70	18
1996	32,597.50	3	1,284.80	20
Average	-	32	-	20

Source: Yearbook of China Tourism Statistics, 1990-1997.

Table 5.3.2-1b Correlation result Using Data of Table 5.3.2-1a

	Column 1	Column 2
Column 1	1	
Column 2	0.976374	1

Source: Author's calculation

In Hong Kong's tourism industry (Table 5.3.2-2a), the total output grew by almost 3 times from 1986 to 1996 at an average rate of 15%. In the same period the personal income grew by 2.2 times at an average of 13%. Even though the growth rate of the personal income is lower than that of the output of the industry, Hong Kong's labour cost in the tourism industry is really very high in absolute terms. And this makes Hong Kong one of the most expensive tourist destinations in the APEC region.

Correlation coefficient between the output and the personal income is 0.993 (Table 5.3.2-2b), showing that the personal income of the employees increased proportionally with the rise of the output.

Table 5.3.2-2a Hong Kong's Tourism Industry: Output and Personal Income

1986-96

Year	Output (US$ Million)	Growth %	Personal Income (US$, monthly)	Growth %
1986	1485.8	-	941.10	-
1987	1696.8	20	1,131.90	14
1988	1963.8	27	1,434.30	16
1989	2209.7	13	1,626.20	13
1990	2465.2	10	1,786.40	12
1991	2763.2	2	1,825.40	12
1992	3175.9	16	2,121.40	15
1993	3677.4	20	2,538.80	16
1994	4389.3	15	2,920.60	19
1995	4721.5	12	3,284.80	8
1996	5008.1	13	3,714.50	6
Average		15		13

Source: Author's calculation from Appendix 1.

Table 5.3.2-2b Correlation Result Using Data from Appendix 1

	Column 1	Column 2
Column 1	1	
Column 2	0.993027	1

Source: Author's calculation.

5.3.3 FDIT and Employment

The notion that the tourism industry is labour-intensive seems to be widely accepted (Sinclair and Stabler 1991; McIntoch et al. 1995). Based on the data available, the contribution of FDIT is best examined in the hotel sector. In China, from 1989 to 1996, foreign-invested hotels takes up 18% of the total number of establishments, 33% of the total employment and 48% of total output. This ratio shows that foreign-invested hotels are generally much larger at least in terms of employment. They are also far more effective, as 33% of the workforce produces about half of the total output (Appendix 1).

For the period between 1989 and 1994 (Table 5.3.3-1a), correlation analysis shows

that the employment in FDI hotels is positively correlated with the volume of FDI

inflows. The correlation coefficient is 0.86 (Table 5.3.3-1b). Compared with the

correlation coefficient between personal income and output of 0.98 (Section 5.3.2),

the relationship between China's hotel FDI and the employment is not as strong as

that between the FDI hotel output and the employment. However, multiplier analysis

gives the value of 13.84, meaning that when FDI increases by an additional million

of US dollars of, an additional 13.84 full-time jobs will be created.

Table 5.3.3-1a FDI Inflow and Employment in China's Hotel Sector 1989-1994

Year	Hotel FDI (US$ million)	Employment (person)
1989	441.37	128,984
1990	104.2	163,030
1991	238.83	189,091
1992	722.99	216,400
1993	1,481.53	236,948
1994	5,019.44	235,452

Source: Almanac of China's Foreign Economic Relations and Trade 1990-1995. Appendix 1.

Table 5.3.3-1b Correlation Result Using Data of Table 5.3.3-1a

	Column 1	Column 2
Column 1	1	
Column 2	0.85773	1

Source: Author's calculation.

Table 5.3.3-1c Multiple R Result Using Data of Table 5.3.3-1a

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4657.06	1562.89	2.288	0.012	1423.16	24179.29	1423.16	24179.29
X Variable 1	13.84289	1.60676	1.613	0.051	0.3678	12.68356	0.3678	12.68356

Source: Author's calculation.

5.4 FDIT and Its Externalities

FDIT contributes to the benefits of the host economies through various channels in addition to physical capital formation. These positive externalities include technology transfer, human capital development, promotion of foreign trade, economic structure change and upgrade, industry integration and more research and development expenditure on the host country that in turn promotes technological efficiency. This is witnessed in many APEC economies such as China, Hong Kong, Mexico, Singapore, and Taiwan (Chen 1990; Dunning 1996; Lan 1996; Soon and Stoever 1996). In these case studies, evidences are found to justify that FDI helps to foster and speed up the growth and industrialisation of the host economy in one way or another or in several ways. The emphasis of most these studies is oriented on manufacturing industries. Only the Mexico case is mainly devoted to the tourism industry. No matter on which industries they are oriented, however, they have share the common findings that FDI can be very helpful to develop the national economy of the host country.

When a foreign investor embarks on an investment project in the host economy, he must possess comparative technology in order to best exploit the opportunities. At this initial stage, the technology transfer is obvious. As the multinational enterprises (MNEs) internalise the transfer process through its affiliates, technology transfer becomes less obvious, the importance of such externality is correspondingly reduced (Dunning 1988). At this stage, technology is transferred mainly through the movement of labour. Those who learned the skills and knowledge from the MNEs may bring them to a local tourism enterprise, in that the management and efficiency of the local enterprise is improved.

In the technology transfer process, the technology is delivered through interactions between the aliens and the locals. On the micro-economic level, it is a process of transfer from individual/s to individuals or enterprise/s to enterprises. On the marco-economic level, with the growing scale of production of the foreign invested enterprises and the interactions and linkages between the foreign invested enterprise and the host enterprises, this kind of process will lead to changes in the relationship among all enterprises that are involved. The interactions and linkages lead to a situation called industrial integration, and the changes of relationship lead to changes of the industrial structure of the economy concerned. A change in the industrial structure involves two basic forms of integration: horizontal integration and vertical integration. The more interactions and stronger the linkages are, the more integrated the economy is.

According to Dunning (1988a, 1988b, 1996), due to the level of the foreign investor's technology and some of the different local situations, FDI takes several patterns of participation, ranging from total or partial ownership of 'production' activities to contractual arrangements between firms under separate ownership.

So, we have clarified the main components of the externalities of FDIT. Figure 5.4-1 is to describe the components and their relations:

Figure 5.4-1 Components of FDIT's Externalities
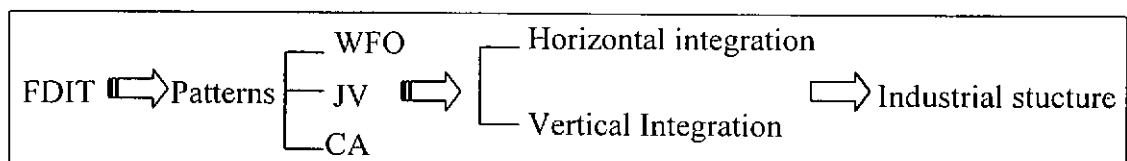
Note: Developed by the author. WFO: Wholly Foreign Owned; JV: Joint Venture; CA: Contractual Arrangement.

Figure 5.4-1 describes the major components of FDIT's externalities. First, FDIT emerges in three patters: wholly foreign owned enterprise, joint-venture and contractual arrangement with the local partner. Because FDIT in different patterns tries to use its certain advantages to gain market share by means of horizontal and vertical integration, as the scale of the enterprises grows, the industrial structure is changed as a result.

As far as the three economies with which we are concerned, there is no strong evidence of large-scale MNE involvement except in the hotel sector (details are given in the following sections). In the context of tourism industry, integration occurs between travel agencies, tour operators, transportation companies and hotel chains.

5.4.1 FDIT and Its Impact on Industrial Integration

Industrial integration is an important concept in analysing industrial structure, organisation and development. It helps to interpret structural rationalisation and optimisation, the economies of scope as well as economies of scale (UN 1997).

Horizontal integration refers to such activities as two or more tourism enterprises producing the same type of output co-ordinate their production. While vertical integration is defined as two or more tourism enterprises supplying different types of output within a production sequence co-ordinate their production. In such a production sequence the outputs of one enterprise are the inputs of another. Relationships include total and partial ownership, industrial collaboration, sales franchising, licensing and other contractual arrangement.

Vertical integration can help to reduce uncertainty about future demand, aiding information acquisition and facilitating the provision of inputs at known prices. A second motive for vertical integration concerns improved synchronisation of operations, and a third involves increasing market power (Gomez and Sinclair 1991).

Industrial integration involves two directions in the production chain through ownership participation or contractual arrangement: horizontal and vertical integration. One of the perceived benefits of FDI is that it can help the production of the host economy to be vertically integrated in the international production chain. It is also likely to foster the host firms' competitiveness when they are faced with foreign firms. The cost might be foreign control of ownership or even monopoly in the market due to the existence of strong foreign presence. Because the home investors often have direct access to more advanced technology and innovation, powerful foreign presence may have intrinsic impact on host entrepreneurial and technological development (Lall 1992). If the host firms are not up to the standard to compete with home firms, this will lead to market concentration. And large transnational corporations typically participate to a greater extent in industries that are more concentrated. In developing economies, such industrial concentration is found to increase (UN 1997). This is due to the fact that it is exactly the market concentration and competition at home country that makes the home firms to transform into transnational corporations.

To prevent adverse competition which may cause severe market concentration, competition laws are drawn. There are about 60 such laws in the world by 1997 (UN 1997). The main objective of these laws is to preserve and promote healthy

competition as a means to maximize the efficient allocation of resources. Most of these competition laws prohibit business practices such as horizontal operation agreements and vertical distribution agreements, or continual mergers, acquisitions and joint ventures, as these practices will lead to market domination, which is the inherent nature of production to achieve economies of scale or scope.

In the context of the tourism industry, there is the tendency that more FDIT are made in sectors of travel agents, airlines and attraction development than in other sectors like hotels, restaurants, car-rental companies. With the latter tourism sectors, foreign participation is more prone to take the form of contractual arrangements such as leasing, franchise, referral agreement and management contracts (UN 1989).

But this observation might not be true if the economies concerned are at different levels of economic stage. According to the economic theories, an economy at different levels of development has different industrial structures. The more advanced an economy is, the more sophisticated and inter-sectoral linkages are formed; the stronger competition emerges due to the dissemination of production knowledge and the increase of the number of producers; better co-ordination are necessitated due to more segmentation of division of labor. These developments inevitably prompt different producers to forge alliance relationship either horizontally to exploit economies of scale or vertically to exploit economies of scope.

The following three sections will analyze the level of tourism industrial integration in the three economies.

5.4.1.1 Australia

Australian tourism has achieved remarkable growth between 1986 and 1997, as shown in Table 3.1-1 (P46). To the tourism suppliers, however, the period is a time from irrational growth to recession and consolidation (King and McVey 1996).

In late 1991, the domestic airline industry in Australia was deregulated. A third airline, Compass Airlines, was formed to compete with the existing Ansett Australia and Australian Airlines. In 1992, Australian Airlines merged with the international carrier, Qantas Airways. In 1993, Compass Airlines ceased operation and Qantas Airways granted a 25% holding to British Airways.

The changes in the airline industry do not seem spectacular, but the impacts are far-reaching in the tourism industry. With the strengthened power of the airlines, the tourism industry become more both horizontally and vertically integrated. By 1993, two airline groups remained in the market: Qantas Airways and Ansett Airlines. The bi-polar status quo of the airlines causes other tourism sectors to form two major camps around the two airlines. Travel agencies and hotels are under increasing pressure to align with one of the two airlines. Table 5.4.1.1-1 shows 12 major travel retail groups and 12 major hotel groups in Australia in 1994.

From Table 5.4.1.1-1, it is clear that the foreign presence is strong in both the travel and hotel sectors, with heavier foreign presence in the hotel sector. Of the 12 largest travel retail groups, 6 have foreign interests with 1,110 offices, almost half of the total. Though the number of offices does not reflect the market share that foreign travel agencies take, it does represent the marketing strength of their business. Of the 12 largest hotel groups, 8 have foreign interests. The heavier foreign presence in the hotel sector than in the travel sector appears to conform to the popular theory about

the difference in the two sectors. The theory holds that travel service is best delivered by local service providers because they can provide their customers with tailor-made products, and that hotel service is best delivered by international hotel chains because they can provide with standardized products. It seems that in both sectors, foreign investors seek to exploit the economies of scale through horizontal integration (see Table 5.4.1.1-2, next page).

Table 5.4.1.1-1 Major Travel Retail Groups and Hotel Groups in Australia, 1994

Travel groups	Country of origin	No. of outlets	Hotel groups	Country of origin	No.of properties	No. of rooms
Jetset	NZ	621	Southern Pacific Hotel Corp.	Au	36	6,717
Harvey World	Au	320	Accor Asia Pacific	Fr	44	5,263
United Travel Agents Grp.	Au	260	Sheraton Pacific	US	10	3,230
Flight Centers	US	216	Rydges hotel Group	Au	19	2,855
Ansett	Au	180	Hyatt Hotels & Resorts	US	7	2,669
Traveland	Au	177	Country Comfort	Au	26	2,503
Qantas Holidays	Au	130	Hilton International	US	7	2,495
American Express	US	106	All Seasons Resorts	Au	23	2,217
Thomas Cook	UK	67	Raddison	US	10	2,116
National Australian Travel	Au	61	Ramada International	US	7	1,994
Student travel	US	46	Holiday Inn	US	5	1,897
Westpac Travel	US	44	Mirvac/Marriott	US	7	1,189
Total		2,228	Total		201	35,145

Source: EIU Travel & Tourism Analyst. 1994, No.2.

Also following the structural changes in the airlines industry, a new wave of foreign purchases swept across the country. In just over one year (between May 1994 and June 1995), of the 29 hotel property sales above A$5 million, 19 were bought by

foreign investors, representing 65% of the number of sales. Among the 19 purchases, 18 were bought by Singaporeans and 1 by ITT Sheraton, a US hotel chain (King and McVey 1996).

The level of foreign participation in hotel ownership is also high. Table 5.4.1.1-2 describes the country of origin of the leading accommodation properties as at 1995. Among the top 8 owners of accommodation properties, 6 were of foreign origin: three from Singapore, 2 from Japan and one from France. They own 51 or 64% of the 80 properties and 11,856 or 82% of the 14,500 rooms.

Table 5.4.1.1-2 Leading Owners of Australian Accommodation Properties, 1995

Hotel owner	Country of origin	No. of properties	No. of rooms
Thakral Holdings Group	Singapore	11	2,591
Australian Tourism Group	Australia	22.	1,612
Accor Asia Pacific	France	22	1,541
Daikyo Inc.	Japan	5	4,368
United Overseas Land	Singapore	4	1,234
Hai Sun Hup	Singapore	4	1,065
Mui & Associated Companies	Japan	5	1,057
Amalgamated Holdings	Australia	7	1,032
Total	4	80	14,500

Source: EIU Travel & Tourism Analyst. 1996, No.2

Again, this is a good indication that both the owners and the management groups want to capture the economies of scale as they try to bring their expertise into the particular line of business.

There are some indications of vertical integration in the Australian tourism industry. Bywater (1990) reports that the Australian airline industry was highly vertically integrated. In 1994, the number of airlines in Australia was reduced to 2 from previously 4. The market concentration of the airline industry induced further vertical integration and polarization of the Australian tourism industry. To illustrate this development, take Qantas Airways for example, as described in Table 5.4.1.1-3. Qantas Airways had full ownership of 6 subsidiaries. Business scope covered the major tourism activities from ticketing, air travel to accommodation and tours. Since the British Airways has 25% of Qantas Airways and Air New Zealand has 50% of Ansett, it is safe to say that foreign investment plays an significant part in the vertical integration in Australian airline industry.

Table 5.4.1.1-3 Vertical Integration: Qantas Airways' Tourism, 1994

Subsidiaries	% of stake
Qantair	100
Australia Asia Airlines	100
Australian Airlink	100
Qantas Holidays	100
QH Tours	100
Australian Resorts Pty Ltd.	100

Source: EIU Travel & Tourism Analyst. 1994, No.2

This section analyzes the level of industrial integration in the Australian tourism industry. It is found that there is a strong foreign presence in the airline, accommodation and travel agency sectors. However, foreign investment appears to cause some concentration in the airline sector, but not in hotel and travel agency sectors.

5.4.1.2 China

As the Chinese government has been struggling to reform its state-owned enterprises, mergers are becoming acceptable for the state-owned firms. However, few instances are found in the tourism sectors. It appears that in the airlines and travel agency sectors, firms are undergoing a process of 'decentralization' instead of integration and concentration (See Appendix 1).

The decentralization occurred in 1992, the Chinese national carrier split into 3 airlines companies, with Air China as the national flag carrier. Between 1992 and 1996, in a matter of five years, 25 new airlines mushroomed. From 1981 to 1995, total air traffic rose by an average of 21% per year, and the volume growth of China's civil aviation rose 4.3 times faster than global aviation development (EIU 1996). The same phenomenon is found in the travel agency sector. From 1991 to 1994, about 1000 new travel agencies were registered each year. The momentum came to a halt after 1994 because of the government's ban on new licenses, with the aim to consolidate the market and ease vicious competition (CAAC 1997).

Although the passengers may enjoy better services due to the competition mechanism introduced as a result of decentralization (TBA 1993; CAAC 1997), the segmentation of airline market might not be good to cultivate competitiveness of China's airline industry on the world market. While airlines in the other parts of the world are striving to forge into bigger airlines through mergers and acquisitions, little evidence can be traced to purport that China is heading toward this direction. A WTO study (1993) reveals that there are many advantages in being big in the airline

industry. The advantages are not coming from conventional advantages of economies of scale. They derive not so much from cost savings in economies of scale, as from improved marketing strength of economies of scope. According to the US experience, the advantages of economies of scope arise from the domination of hub operations, the control of distribution, price leadership, loyalty schemes and the power of large-scale advertising campaigns.

Foreign participation is allowed cautiously in the airlines business. Up to date only one provincial airline, Hainan Airlines, has become the first airline to accept foreign investment, which is a US$25 million deal with American Aviation Investments (Ballantyne 1996). Foreign investment is also found in some ground service and airport construction projects. However, the degree of foreign influence is negligible.

Joint-venture travel agency was allowed within the 12 national tourist resort zones since 1995. The restriction was further eased in 1998 by allowing joint-venture travel agencies throughout the country. However, up to now there is no report that any joint-venture travel agency is formed. Cases reported in the *First census on the tertiary industry in China 1991-1992* are believed to be representative offices of foreign travel firms with activities confined to non-profit promotional services.

The hotel sector has seen the highest foreign participation rate, followed by recreational business. Actually, the hotel sector was the first sector in China that opened to FDI. There is some evidence of horizontal integration within the foreign hotel chains (Table 5.4.1.2-1), or at least it can be assumed that a few foreign hotel chains are making efforts towards that end. But it seems that neither of the two

sectors is forging vertical integration.

Table 5.4.1.2-1 Major International Hotel Chains in China, 1997

Hotel Chain	No. of Hotels	No. of Rooms
Shangri-la	15	7796
Holiday Inn	15	5686
Sheraton	7	3832
Accor	8	3766
New World	7	3398
Gloria	9	1803
Lee Gardens	3	1674
Nikko	3	1521
Hyatt	3	1374
Chains	4	1139
Ramada	3	609

Note: Hotel chains included here are those having more than 3 locations in China.
Source: Travel Business Analyst (Hong Kong), 1996; Hotel chain homepages, 1998.

5.4.1.3 Hong Kong

Neither horizontal nor vertical integration is strong enough to form a high level of

market concentration in the tourism industry except in the airline sector.

In the airline industry, the only two local airlines, Cathy Pacific and Dragon Airlines,

are mainly affiliated to three overseas companies: the Britain-based Swire Pacific

Ltd., the China-based CITIC Pacific Ltd. and China National Aviation Company Ltd.

Swire Pacific has 43.9% shares of Cathy Pacific and 15.5% shares of Dragon

Airlines. CITIC Pacific Ltd. has 25% of Cathy Pacific and 28.5% of Dragon Airlines.

China National Aviation Co. Ltd. has 1.7% of Cathy Pacific and 43.29% of Dragon

Airlines. And the two local airlines also have ownership relations: Cathy Pacific has

18% of the Dragon Airlines. Both airlines have quite substantial tourism-related

businesses, ranging from ground transport to hotel services and reservation systems.

These relationships form strong horizontal and vertical integration. The complex inter-relationships are shown in Figure 5.4.1.3 -1.

Figure 5.4.1.3-1 Horizontal and Vertical Integration in Hong Kong's Tourism Industry
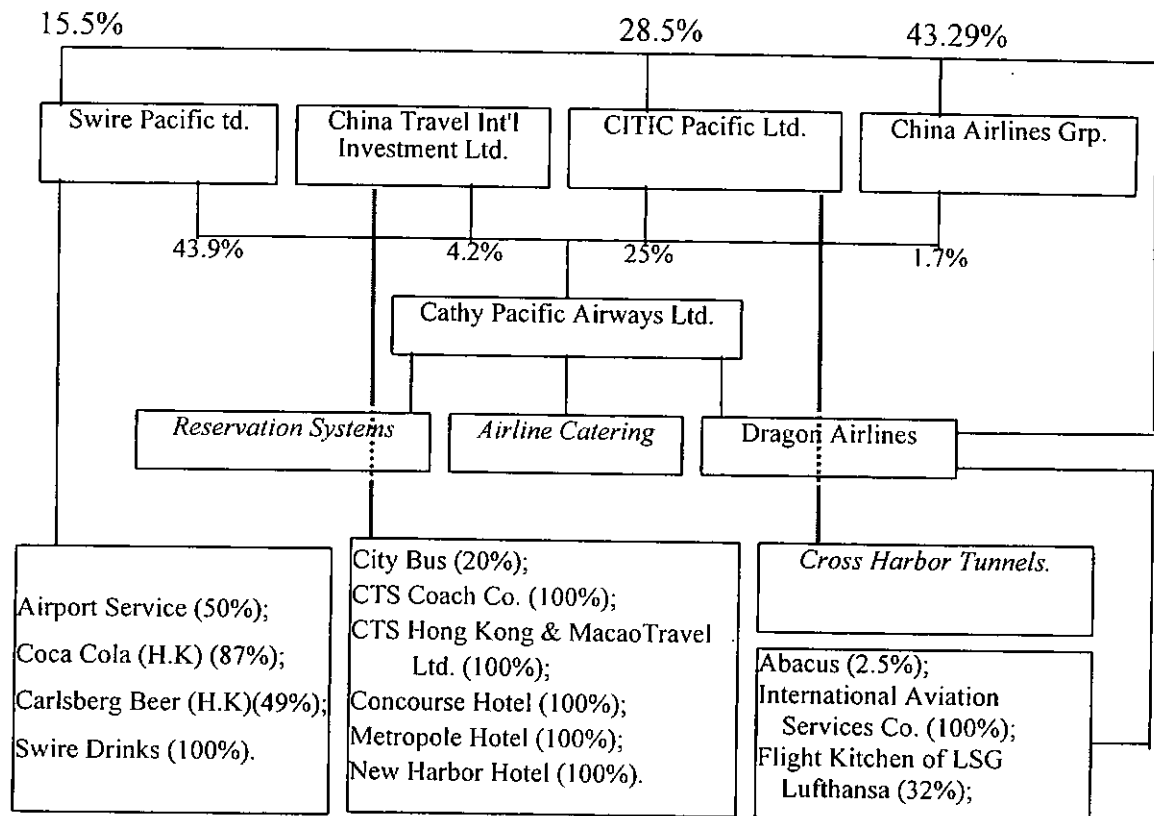
Note: The percentages are share holding status.

Source: Hong Kong Stock Exchange, 1998; Dragon Air Internet Homepage, 1998.

Because of the high level of market concentration as a result of the vertical and horizontal integration in the airline industry, both economies of scale and scope are likely to exist. The performance of the two airlines seems to prove the above proposition. Among 57 airlines which have operations in Hong Kong, Cathy Pacific Airways and Dragon Air together have more than 40% share of the seat capacity in the Hong Kong market (HKTA 1997).

In the hotel sector, about 30 hotel chain and hotel management groups have interests in 47 of the 88 hotels in Hong Kong. The largest hotel chain that has ownership rights to hotels in Hong Kong has no more than 3 hotels, and in fact there are 6 hotel chains that each owns 3 hotels. They are China Travel Hotel Management Services H.K. Ltd., Grand Hotel Group, Omni Hotels Asia-Pacific, Marco Polo Hotels, Sino Group Hotel Management and Stanford Hotels International Co. Ltd. Among the 6 hotel chains, Sino Group Hotel Management is the largest in terms of ownership, having 1738 rooms. Stanford Hotels International Co. Ltd. is the smallest, having 936 rooms. The largest hotel management group is Regal Hotel Holding Co. Ltd., which manages 4 hotels with 2247 rooms.

The travel agency sector is also highly competitive. There has been little change in the number of travel agencies over the last 10 years. In 1996, Hong Kong had 1267 travel agencies. Among the top 10 largest travel agencies in terms of the number of offices (Table 5.4.1.3-1), only two are owned by overseas companies: CTS (HK) Ltd. and Guang Dong (HK) Tours Co. Ltd., both have China backgrounds and are the third and fifth largest in the top 10. The two travel agencies together have 30 offices among a total of 144.

In other sectors closely related to the tourism industry, such as restaurants, bars and clubs, foreign presence is popular, but it seems that the ownership and management is highly fragmented.

Table 5.4.1.3-1 Ten Largest Travel Agencies in Hong Kong, 1997

Name of travel agency	Number of branch offices
Hong Tai Citizens Travel Service Ltd.	27
Hong Kong Wing On Travel Service Ltd.	25
China Travel Service (H.K) Ltd.	19
Morning Star Travel Service Ltd.	12
Sunflower Travel Service Ltd.	12
Guang Dong (H.K) Tours Co. Ltd.	11
Wah Nan Travel Service Ltd.	11
Kwan Kin Travel Service Ltd.	10
HYFCO Travel Agency Ltd.	9
Hong Kong Four Seas Tours Ltd.	8
Total	144

Source: Travel Industry Council, Hong Kong, 1998.

As discussed above, horizontal integration is found in Hong Kong's airline industry, hotel industry and travel agencies. Vertical integration is mainly found in the airline industry. But there is no evidence that such integration is strong enough to establish a monopoly case in the Hong Kong tourism industry. For example, Swire Pacific Ltd. 'A', China Travel International Investment Ltd., CITIC Pacific Ltd and China Airlines Group are the big players in Hong Kong's tourism industry (Figure 5.4.1.3-1), but the market concentration of their tourism activities do not seem to cause monopoly.

5.4.2 Patterns of FDIT and Its Impacts on Technology Transfer

5.4.2.1 Patterns of FDIT

Lan (1996) identifies three patterns FDI by which technologies are transferred. The three patterns are represented by three types of foreign involvement: wholly-foreign-

owned enterprise (WFO), joint-venture (JV), and contractual agreement (CA). WFO and JV are equity investment, CA involves leasing and management agreements that contribute minimal capital inflow to the host economy.

WTO (1985) finds that among the major factors of production in the tourism industry, the hotel sector had the highest foreign involvement. In other sectors, foreign involvement in the airline sector is still restricted by bilateral agreements between governments, but it is believed that airlines of a more developed economy have a higher revenue passenger mileage (WTO 1985). The travel agency and recreational sectors are highly segmented in the three economies under our investigaion.

The three patterns of FDIT involvement can be best explained by Dunning's (1988; 1996) eclectic paradigm. According to the theory, a specific pattern that the foreign investor chooses is determined by a set of inter-active variables called OLI, standing for ownership privileges of the investor, locational advantages of the enterprise in consideration and degree of internalisation of operations in the host economy.

If the foreign investor is absolutely confident in its OLI privileges over the host competitors, he would choose to set up a wholly-foreign-owned enterprise in the host economy. Such an investor is usually large transnational corporation, which can reap the monopolistic benefits to its own. It seems that such transnational corporations also have strong research and development capabilities. If the foreign investor is not so sure of its OLI privileges, while the host enterprise may have a better appreciation of the potential value of the foreign investor's technology. In this case, the two sides are likely to enter into a joint venture, where they are hopeful to reduce the uncertainties for both parties by sharing the potential returns and risks. If the foreign

investor perceives that the host has a similar operational environment to that of the parent firm, at the same time it is confident of some aspects of its privileges, the foreign investor is likely to enter contractual agreements with the host firm.

5.4.2.2 Technology and Technology Transfer

Technology is defined as the total means to get things done. Previous studies (UN 1989; Tisdell 1993; Lan 1996) indicate that technology can be basically classified into two categories: hard or tangible technology and soft or intangible technology. The hard technology is concerned with production facilities, while the latter is concerned with marketing, organisation and management skills.

Technology transfer is the process of diffusion of the knowledge and skills from one person to another, who subsequently is capable of bringing the knowledge and skill from one location to another (Lan 1996).

In the context of the tourism industry, it seems that more soft technologies are involved (UN 1989). The services that the industry provides are based on experience of the provider and the product that the customer consumes is also an experience rather than tangible goods. Such properties of tourism-specific technologies make it difficult to be purchased in the market place. Because unless one "buyer" is directly exposed to the experience, he may make many costly mistakes before he can master the skills (Tisdell 1993). Due to these properties of tourism-specific technologies, some forms of technology have become popular with the tourism industry, such as management contracts, leasing, franchising and consultancy.

5.4.2.3 Patterns of FDIT and Technology Transfer

This observation conforms the real world practice that technology transferred within a firm or through its affiliates. But the transfer may not always be successful due to a number of factors on both the home and host sides.

One factor is whether the technology is appropriate to the host firm/economy (OECD 1989). A certain technology can be transferred successfully only when the technology is adaptable to the host, and at the same time the host has the capacity to digest it and build up its own human resources.

There might be the possibility that the home firm fails to transfer its technology to personnel of the host economy. Top managerial positions may be retained by home staff, and the host personnel may be given little opportunity to participate in top management or to become fully aware of techniques. In such cases, the foreign partner may get benefits without transferring very much (Pine 1990; Tisdell 1993).

It is believed that wholly-foreign-owned enterprises have the most advanced technology content, at least this is true in China (Wu 1991; Lan 1996). As to which of the two other forms of FDI, joint-venture and contractual agreement, has a higher technology content is not well researched and documented. But in relation to the different levels of economic development in the host economy, it is likely that the FDI makes its presence in equity investment in a less developed economy and contractual arrangements in a more developed economy.

In the three economies under study, available data shows that FDI is more prone to be

in the pattern of equity investment in the airline and travel agency sectors. In the hotel sector, FDI shows different patterns of presence in the three economies. In China, the majority of foreign-invested hotels are wholly-foreign-owned or joint-venture enterprises. Among the 11 major foreign hotel chains (Table 5.4.1.2-1) in China, 4 of them (Chains, Gloria, Lee Gardens and Ramada) provide with franchise or management only, all the others have equity investment. In Hong Kong's 88 hotels in 1996, at least 40 of them are managed by international hotel chains (HKHA 1998).

5.5 Summary of Chapter 5

This chapter analyses and compares the economic impacts of FDIT in the three economies. Four statistical methods are used: multiplier analysis, correlation analysis, regression and descriptive analysis. The first three methods are employed to measure the commensurate impacts of FDIT on output, personal income and employment. Descriptive data are used to capture the incommensurate impacts: the level of foreign exchange leakage resulted from FDIT is discussed and FDIT's impacts on the industrial integration and technology transfer are analysed. The next chapter will give a more detailed discussion on the findings from this chapter.

Chapter 6. Conclusion

6.1 Findings of the Study

Chapter 5 studies the economic impacts of FDIT in three APEC economies at three levels of economic development. The following findings can be put forward:

(1) In terms of the commensurate impacts, FDIT does generate different amount of benefits in the three categories of economies. Australia takes the lead in output multipliers between 1986 and 1995, at an average of 3.91. Hong Kong comes the second at an average of 3.45 and China the last at an average of 2.27. That is to say, each unit of additional FDI can bring about more output in a developed economy.

Though the personal income in absolute terms is much lower in China than in Australia and Hong Kong, FDIT contributes a substantial increase in personal income in China. Little difference is found between enterprises with FDIT and the enterprises of the host economy in Australia and Hong Kong. This proves that FDIT contributes more to the improvement of the welfare of the host employees in a developing economy.

Compared with domestic investment, FDIT seems to be less labour intensive and more capital intensive in China. Though the actual data does not enable the author to make a cross-country comparison, evidences exist to show that FDIT is less labour intensive and more capital intensive .

(2) FDIT does exert different impacts on tourism industrial structure in the three economies at three different levels of economic development. FDIT is more prone to

form horizontal integration in a less developed economy, while it is likely to emphasise vertical integration in a more developed economy. In China, vertical integration in FDIT enterprises is virtually non-existent. In Hong Kong, there is some vertical integration in the airline industry. In Australia, stronger vertical integration is found in both the airline sector and the travel agency sector. The result testifies the conceptual understanding that FDIT seeks horizontal integration in a less developed economy to exploit economies of scale only, while it also seeks vertical integration in a more developed economy to exploit the economies of scope.

(3) FDIT does show different patterns of involvement in the different categoreis of economies. It is found that FDIT is likely to make presence in the form of wholly-foreign-owned or joint-venture enterprises in China, while FDIT is likely to be in the form of contractual arrangements in Australia and Hong Kong. The findings seem to confirm the perception that FDIT is more likely to make its presence in the form of equity capital investment in a developing economy so as to capitalise on its ownership, locational and internalizational (OLI) privileges. In Australia and Hong Kong, contractual arrangements are found in and among the airline, travel agency and hotel sectors. Such contractual arrangements may include joint marketing programs, code sharing among the airlines, computer reservation system interfacing among the tourism sectors, management agreements and franchising in the hotel sector, etc. According to the eclectic paradigm theory (Dunning 1988b, 1996; UN 1989) and empirical studies in China (Li 1995; Lan 1996), FDI in the wholly-foreign-owned enterprises can bring about more positive impact on the host economy in technology transfer. Thus, it is safe to conclude that FDIT in China bring about more benefits in technology transfer than in Australia and Hong Kong.

Table 6-1 summaries the commensurate and incommensurate impacts of FDIT in Australia, China and Hong Kong.

Table 6-1 A Comparison of FDIT's Impacts in the Three Economies

	Australia	China	Hong Kong
Multiplier	Higher (3.91)	Lower (2.27)	Medium (3.45)
Personal Income	NA	Substantially Positive (1.6 times higher than that of the home firms and an average annual growth rate of 20% from 1989 to 1996)	Positive (Average annual growth rate is 13% from 1986 to 1996; labor cost is very high in absolute terms)
Employment	Positive	Positive	Positive
Leakage	Lower (Negligible)	Medium (> 20%)	Higher (around 40%)
Industrial Structure	Horizontally Stronger Vertically Stronger	Horizontally Medium Vertically Weak	Horizontally Medium Vertically Medium
Technology Transfer	Positive	Substantially Positive	Positive

Table 6-1 proves that all three types of economies appear to be able to gain net positive benefits in terms of commensurate and incommensurate indicators. FDIT is capable of speeding up the economic growth (i.e. positive multiplier values and low foreign exchange leakage ratios) and diversifying the tourism industry in the host economies (i.e. positive impacts on the industrial structures and technology transfer). The results justifies the governments' policy to attract FDIT in all three types of economies.

One of the important findings in this study is the new understanding in the width and depth of the externalities of FDIT. The analysis of the impacts on tourism industrial

structure, the patterns of FDIT and technology transfer should shed new light on future such studies. Attention of the reader is called especially to technology transfer. It would be legitimate to interpret technology transfer in the tourism industry as follows: Technology transfer in the tourism industry is more of the transfer of soft technologies, which are embodied in any of the patterns of FDIT: wholly-foreign-owned, joint-venture and contractual arrangements. It is the process of diffusion of the knowledge and skills from one person to another, who subsequently is capable of bringing the knowledge and skill from one location to another.

In the process of study, it is surprising to find that FDIT actually helps to facilitate decentralisation in the tourism industry in the different types of economy. As shown in Section 5.4, foreign participation in the tourism sectors helps the local firms to be horizontally or vertically integrated in the production chains. Since it does not cause monopoly in any tourism sectors in any of the three categories of economies, decentralization is an unintentional but valuable by-product of the process of industrial integration.

6.2 Value and Limitations

Since few economic impact studies on foreign tourism investment have been done (ESCAP 1991; Sinclair 1991), this study tries to examine the depth and breadth of its influence in the APEC region. Also the study to conform to the WTO/UN recommendations on a range of tourism measurement issues. With a sense of pioneerism, it will be academically meaningful for more rigorous researches in this area.

This study draws its insights from the approaches and methods of tourism's impact evaluations by Bryden (1973), Layard (1973), Archer (1977a, 1996), Dunning (1988b, 1996), Kottke (1988), Smith (1988), Gomez and Sinclair (1991), Gleason (1995) and Lan (1996). These studies help the present author to be able to build up a workable framework that incorporates both quantitative and qualitative analysis to measure the impacts of FDIT in full its length. In this sense, this study adds to and develops the existing methodologies of economic impact studies of tourism investment.

This study makes a longitudinal study of the leakage problem of FDIT. Most of the previous impact studies deal with either the positive aspects or the negative aspects of FDIT. This study gives the reader a more complete picture of the impacts of FDIT with the inclusion of leakage analysis and externalities analysis.

This study takes the economic impact evaluations recently conducted by institutions such as the WTO and WEFA as its starting point. Since these institutions attach greater importance to policy perspectives, it would be appropriate to say that the findings of the study should be useful in policy formulation. The bottom-lime purpose of the study is to provide an answer the question that how viable is FDIT in different types of economy.

To APEC tourism authorities, this research will provide quantitative interpretations to better understand the benefits of tourism investment. Within the APEC fora, tourism is listed as one of the three most important industries under trade in services (the other two are telecommunication and construction). This study will help them to find common grounds in the multilateral talks on liberalisation and facilitation.

For investment institutions and investors, this study will help them to compare the potentials of tourism industry to other investment opportunities. The statistical information of the study should produce greater incentive and confidence in the tourism industry. Thus it can help them to target more accurately at areas of growth between tourism and other industries and among different sectors of the tourism industry.

The limitations of this study are in several aspects. Because widely accepted methodologies to measure economic impacts of the tourism industry is relatively new, and they are still in a process of evolution (McIntosh 1995), there has been no well-established economic model to measure the impacts of tourism investment. For example, traditional cost-benefit analysis is based on one important assumption: costs and benefits are tangible and can be measured quantitatively in commensurate terms (i.e. money) (Smith 1995). This means that at least some important intangible effects are excluded in the analysis. In the case of tourism, we cannot afford to ignore intangibles such as international marketing techniques, management skills, work attitude, ethos and etiquette which we know are always important in our industry. Thus, cost-benefit analysis should never remove the sensible judgement of public officials. This view is strongly echoed by Hammond (1968): cost-benefit analysis should not be taken as"a precision tool for attaining general economic efficiency".

Existing data do not allow for a quantitative examination of some important forms of foreign direct investment, such as management contracts, leasing, franchising and consultancy. Even though the amount of capital committed to the host is minimal,

they constitute a continual stream of leakage. On the other hand, these forms of foreign involvement are major sources of technology transfer. What we do in our study is to put their impacts under consideration of the externalities.

Depreciation of capital and government behaviour (intervention and policy constraints) is not included in cost-benefit analysis. This study covers a period of 11 years, There must be some depreciation of capital associated with FDIT. However, since this study does not make any analysis using cumulative data, the problem is believed to be not substantial enough to affect the analysis.

As pointed out earlier, quality data are never sufficient. The understanding of and the definition of tourism investment vary from country to country (See Section 5.1). In national economic reports, such data are classified under different headings and industries, data collected from such sources may slightly distort the findings for comparison. It is unlikely to obtain the original reporting data sets, so it is difficult to estimate very accurate breakdowns among tourism sectors. Estimates are acknowledged throughout the thesis for clear reference to the readers.

It is very regrettable that, up to the final stage of writing, some important Australian data was still insufficient to make the cross-country comparison as originally designed, even though help was sought from about twenty sources of individuals and institutions. However, at least it is clear that the data is out there in Australia. A field trip, which was not included in the current program, should address this problem.

6.3 Recommendations for Future Research

The current author keeps a keen interest in exploring this topic further. The

following ideas are suggested for future research:

(1) China as a developing economy has the best data set to study FDIT impacts. The performance of FDIT could be explored in more detail and a good comparison between FDIT and domestic investment would provide more insights about FDIT's economic impacts on the developing economies.

(2) Hong Kong might be replaced by another one, such as Singapore, as the representative of the newly industrialised economies, where government authorities keep a more detailed record of foreign direct investment.

(3) Primary data collection should help to a great extent to reduce data insufficiency. Such data include the ownership status of major tourism groups, forms and patterns of foreign participation, industrial integration levels and technology transfer status.

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Endnotes

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[1] WTO divides Asia-Pacific into two sub-regions: East Asia-Pacific and South Asia.

[2] APEC (Asia Pacific Economic Cooperation) has 18 members around the Pacific rim: Australia, Brunei Darussalam, Canada, Chile, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, Chinese Taipei, South Korea, Thailand, United States.

[3] SICTA: Standard Industrial Classification for Tourism Activities. For more information about SICTA, Please refer to two publications of World Tourism Organization (1995): Concepts, definitions and classifications for tourism statistics.

[4] GATT: General Agreement on Trade and Tariffs, United Nations.

[5] GATS: General Agreement on Trade in Services, United Nations.

Appendix 1.

Economic Status: Core Factors of Production - Australia

		Airlines		Hotels		Travel agencies		Recreational Business	
		All	% Change	All	% Change	All	% Change	All	% Change
Output (US$ million)	1986								
	1987					300.68			
	1988								
	1989								
	1990								
	1991								
	1992								
	1993	4212.28		4597.16		203.80		1510.74	
	1994								
	1995	6561.39		6850.54		281.73		2313.17	
	1996			7407.02					
Personal Income (US$ monthly)	1986								
	1987								
	1988								
	1989								
	1990								
	1991					964			
	1992								
	1993	2018		2150		1737		1830	
	1994	2113	4.7	2175	1.2	1870	7.7	1933	5.6
	1995	2281	8.0	2193	1	1996	7.4	2012	4.1
	1996	2415	5.9	2221	1.3	2180	9.2	2136	6.7

Economic Status: Core Factors of Production - Australia (Continued)

		Airlines		Hotels		Travel agencies		Recreational Business	
		All	% Change	All	% Change	All	% Change	All	% Change
Employment (persons)	1986	14107				11,600			
	1987								
	1988	15526							
	1989	17481							
	1990	17469							
	1991								
	1992								
	1993	27500		151800				19100	
	1994	34300							
	1995	37700		216600				25100	
	1996								
Number of establishments	1986	3	-	1108		1,494			
	1987	3	-	1112	0.4				
	1988	3	-	1169	5.1				
	1989	3	-	1160	-0.8				
	1990	3	-	1212	4.5				
	1991	4	-	1187	-2.1				
	1992	3	-	1185	-0.2				
	1993	2	-	1138	-4.0				
	1994	2	-	1135	-0.3				
	1995	2	-	1134	-0.1				
	1996	2	-	1140	0.5				

Economic Status: Core Factors of Production - China

		Airlines		Hotels			Travel agencies			Recreational Business		
		All	% Ch	All(A)	FDIT(B)	% B/A	All (C)	FDIT(D)	% D/C	All(E)	FDIT(F)	% F/E
Output (CHY million)	1986	2,825	-	-	-	-	-	-	-	-	-	-
	1987	4,269	51.1	-	-	-	-	-	-	-	-	-
	1988	5,669	32.8	-	-	-	-	-	-	-	-	-
	1989	5,911	4.3	11,335.8	4,961.5	43.8	-	-	-	-	-	-
	1990	8,447	42.9	13,882.7	6,336.5	45.6	-	-	-	-	-	-
	1991	11,776	39.4	18,867.8	8,791.1	46.6	4,494.1	478.7	10.7	918.9	192.6	21.0
	1992	16,817	42.8	26,480.5	12,875.1	48.6	4,540.1	650.1	14.3	1,605.7	367.4	22.9
	1993	22,460	33.6	40,666.8	21,254.7	52.3	6,568.1	-	-	-	-	-
	1994	32,829	46.2	54,830.5	27,049.7	49.3	5,786.9	-	-	-	-	-
	1995	41,567	26.6	63,609.2	31,550.3	49.6	6,549.7	-	-	-	-	-
	1996	48,219	16.0	73,136.7	32,597.5	44.6	20,039.6	-	-	-	-	-
Personal Income (CHY monthly)	1986	163.8	-	162.2	NA	-	208.9	NA	-	166.5	NA	-
	1987	187.3	14.4	178.4	NA	-	242.3	NA	-	199.8	NA	-
	1988	240.3	28.3	214.0	314.2	147	290.7	NA	-	219.7	NA	-
	1989	322.0	34.0	235.5	358.2	152	319.8	356.6	116	241.7	359.0	149
	1990	340.2	5.7	259.0	394.1	152	351.7	392.2	116	265.9	394.9	149
	1991	352.8	3.7	282.3	457.1	162	383.4	455.0	119	289.8	458.1	158
	1992	441.8	25.2	334.7	571.6	171	454.0	577.5	127	310.5	522.2	168
	1993	665.8	50.7	415.0	714.5	172	563.0	721.9	128	385.0	625.8	163
	1994	959.5	44.1	560.3	907.4	162	760.0	916.8	121	519.7	829.1	159
	1995	1,260	31.3	678.0	1,070.7	158	919.6	1,081.8	118	628.9	978.3	156
	1996	1,384	9.8	793.2	1,284.8	162	1,075.9	1,298.2	121	735.9	1,173.9	160

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Economic Status: Core Factors of Production - China   (Continued)

Employment (persons)

	Airlines		Hotels			Travel agencies			Recreational Business		
	All	% change	All (A)	FDIT(B)	% (B/A)	All (A)	FDIT(B)	% (B/A)	All (A)	FDIT(B)	% (B/A)
1986	67,672	-	-	NA	-	45,564	-	-	-	-	-
1987	74,585	10.2	236,922	NA	-	56,713	-	-	-	-	-
1988	82,597	10.7	298,968	NA	-	56,818	-	-	-	-	-
1989	87,972	6.5	370,643	128,984	34.8	61,580	-	-	-	-	-
1990	88,437	0.5	463,153	163,030	35.2	55,176	-	-	-	-	-
1991	96,159	8.7	547,532	189,091	34.5	76,173	10,805	19.6	62,668	6,663	10.6
1992	110,382	14.8	624,607	216,400	34.7	78,172	11,674	15.3	104,294	13,134	12.6
1993	125,137	13.4	692,413	236,948	34.2	77,553	-	-	-	-	-
1994	131,773	5.3	741,614	235,452	31.8	91,592	-	-	-	-	-
1995	137,528	4.4	868,485	264,510	30.5	87,555	-	-	-	-	-
1996	149,249	8.5	942,459	266,872	28.3		-	-	-	-	-

Number of establishments

	Airlines		Hotels			Travel agencies			Recreational Business		
	All	% change	All (A)	FDIT(B)	% (B/A)	All (A)	FDIT(B)	% (B/A)	All (A)	FDIT(B)	% (B/A)
1986	1	0	-	-	-	-	-	-	-	-	-
1987	1	0	1,283	162	12.6	-	-	-	-	-	-
1988	1	0	1,496	207	13.8	-	-	-	-	-	-
1989	1	0	1,788	300	16.8	1,617	-	-	-	-	-
1990	1	0	1,987	372	18.7	1,603	-	-	-	-	-
1991	1	0	2,130	421	19.8	1,561	49	3.1	5,159	118	2.3
1992	3	300	2,354	476	20.2	2,592	81	3.1	8,726	268	3.1
1993	4	33.3	2,552	489	19.2	3,238	-	-	-	-	-
1994	7	75.0	2,995	529	17.7	4,382	-	-	-	-	-
1995	15	114.3	3,720	646	17.4	3,826	-	-	-	-	-
1996	28	86.7	4,418	694	15.7	4,252	-	-	-	-	-

Source: Year book of China Tourism Statistics, Supplement, 1992-1997; China Transport Yearbook 1991-1997; Statistics of the first census on the tertiary industry in China 1991-1992. Airlines include passenger airlines only.

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Economic Status: Core Factors of Production - Hong Kong

		Airlines		Hotels		Travel agencies		Recreational Businesses		All Sectors	
		All	% Change	All	% Change	All	% Change	All	% Change	All	% change
Output (US$ million)	1986	116.9	-	724.9	-	61.8	-	37.5	-	941.1	0.20
	1987	123.7	5.8	864.9	19.3	89.2	44.3	54.1	44.3	1,131.9	0.27
	1988	143.1	15.7	1,099.9	27.2	99.8	11.9	91.5	69.1	1,434.3	0.13
	1989	159.4	11.4	1,273.2	15.8	87.6	-12.2	106.0	15.9	1,626.2	0.10
	1990	189.3	18.7	1,387.4	9.0	102.4	16.9	107.3	1.2	1,786.4	0.02
	1991	224.6	36.4	1,384.5	8.7	118.0	15.2	98.3	-8.4	1,825.4	0.16
	1992	258.2	12.4	1,633.8	18.0	132.8	12.5	96.6	-1.7	2,121.4	0.20
	1993	290.3	12.9	1,893.9	15.9	203.7	53.4	150.9	56.2	2,538.8	0.15
	1994	327.8	9.6	2,228.6	17.7	234.7	15.2	129.5	-14.2	2,920.6	0.12
	1995	382	16.5	2,431.1	9.1	273.6	16.6	198.1	53.0	3,284.8	0.13
	1996	417.3	9.2	2,775.0	14.2	351.7	28.6	170.5	-13.9	3,714.5	
Personal Income (US$ monthly)	1986	*432*	-	418	-	366	-	269.8	-	1485.8	0.14
	1987	*572*	32.4	469	12.2	375	2.5	280.8	4.1	1696.8	0.16
	1988	*644*	12.6	522	11.3	487	29.9	310.8	10.7	1963.8	0.13
	1989	*699*	8.5	597	14.4	510	4.7	403.7	29.9	2209.7	0.12
	1990	*729*	4.3	706	18.3	563	10.4	467.2	15.7	2465.2	0.12
	1991	*812*	11.4	775	9.8	627	11.4	549.2	17.6	2763.2	0.15
	1992	1,086	33.7	872	12.5	652	4.0	565.9	3.0	3175.9	0.16
	1993	1,230	13.4	983	12.7	834	33.4	630.4	11.4	3677.4	0.19
	1994	1,509	22.7	1,099	11.8	1,061	27.2	720.3	14.3	4389.3	0.08
	1995	1,592	5.5	1,189	8.2	1,162	9.5	778.5	8.1	4721.5	0.06
	1996	1,713	7.6	1,315	10.6	1,198	3.1	782.1	0.5	5008.1	

Figures in italic are averages of the transport services. The output of travel agencies is based on tourist expenditure on tours. The personal income of the recreational businesses are averages of personal service industries.

Economic Status: Core Factors of Production – Hong Kong   (Continued)

		Airlines		Hotels		Travel agencies		Recreational Businesses	
		All	% Change	All	% Change	All	% Change	All	% Change
Employment (persons)	1986	5,883	-	24,038	-	11,307	-	8,485	-
	1987	6,039	2.7	25,684	6.5	12,189	7.8	9,645	13.7
	1988	6,417	6.3	29,191	13.7	13983	14.7	9,883	2.5
	1989	6,241	-2.7	32,629	11.8	13,991	0.6	10,300	4.2
	1990	6,350	1.8	33,829	3.7	14,285	2.1	9,262	-10.1
	1991	6,665	5.0	36,077	6.7	14,933	4.5	9,372	1.2
	1992	8660	29.9	36,769	1.9	18,056	20.9	9,932	6.0
	1993	9,024	4.2	36,921	0.4	19,082	5.7	11,050	11.3
	1994	9,211	2.1	36,436	-1.3	18,251	-4.4	11,090	0.4
	1995	9,732	5.7	34852	-4.4	18,873	3.4	11,669	5.2
	1996	9,628	-1.1	34,534	0.9	19,514	3.4	11,457	-1.8
Number of establishments	1986	2	-	57	-	860	-	216	-
	1987	2	3.3	56	-1.8	882	2.6	237	9.7
	1988	2	6.5	65	16.1	865	-1.9	310	30.8
	1989	2	0	69	6.2	1,084	25.3	260	-16.1
	1990	2	9.0	75	8.7	1,033	-4.7	213	-18.1
	1991	2	11.1	82	9.3	1,068	3.4	247	16.0
	1992	2	7.5	86	4.9	1,094	2.4	247	0
	1993	2	7.0	88	2.3	1,223	11.8	285	15.4
	1994	2	6.5	85	-3.4	1,256	2.7	295	3.5
	1995	2	-2.0	86	1.2	1,273	1.4	316	7.1
	1996	2	10.4	88	2.3	1,267	-0.5	305	-3.5

Marginal Propensity to Consume in the Three Economies

Australia (AUD million)

	GDP	Total consumption	Consumption/GDP	Δ Consumption	Δ GDP
1986	276929	208749	0.7538	-	-
1987	298994	227938	0.7624	19189	22065
1988	340642	252624	0.7416	24686	41648
1989	370286	279456	0.7547	26832	29644
1990	379253	297769	0.7852	18313	24316
1991	387325	314059	0.8108	16290	21728
1992	403852	327665	0.8114	13606	16527
1993	425566	341400	0.8022	13735	21714
1994	447163	357323	0.7963	15923	21597
1995	470868	375988	0.7985	18665	22705

Source: China Statistical Bureau. Note: Data in Italic are correctioned through correlation analysis.

Regression result (ΔC against ΔGDP)

	Coefficients	Standard D	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5995.968	3598.64	1.666176	0.139619	-2513.46	14505.39	-2513.46	14505.39
X Variable 1	0.744378	0.140668	3.628233	0.008418	0.17775	0.843006	0.17775	0.843006

China (Yuan billion)

	GDP	Expenditure	Consumption/GDP	Δ Consumption	Δ GDP
1986	10132.8	6542	0.6456	-	-
1987	11784.0	7451.2	0.6323	909.2	1651.2
1988	14704.1	9360.1	0.6366	1908.2	2929.7
1989	16466.2	10556.5	0.6411	1196.4	1762.0
1990	18319.5	11365.2	0.6204	808.7	1853.5
1991	21280.4	13145.9	0.6178	1780.7	2960.9

1992	25863.6	15952.1	0.6168	2806.2	45583.2
1993	34500.6	20182.1	0.5850	4230.1	8637.1
1994	47110.9	27216.2	0.5778	7034.1	12610.3
1995	59404.9	34529.4	0.5813	7313.2	12293.8

Source: Calculated from *China Statistical Yearbook 1997*.

Regression result (ΔC against ΔGDP)

	Coefficients	Standard D	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	52.83331	181.0299	0.291848	0.778862	-375.234	480.9007	-375.234	480.9007
X Variable 1	0.558246	0.026118	21.37402	1.24E-07	0.496487	0.620005	0.496487	0.620005

Hong Kong (HKD million)

	GDP	Expenditure	Consumption/GDP	Δ Consumption	Δ GDP
1986	341192	223586	0.6553	-	-
1987	389369	252232	0.6478	28646	48178
1988	455022	284690	0.6257	32458	56653
1989	523861	323930	0.6184	39240	68839
1990	582549	373742	0.6416	49812	58688
1991	668512	442568	0.6620	68826	85963
1992	77935	515740	0.6618	73172	110823
1993	897463	588281	0.6555	72541	118128
1994	1012585	673621	0.6653	85340	115122
1995	1105461	746374	0.6752	72753	92876

Source: China Statistical Bureau

Regression result (ΔC against ΔGDP)

	Coefficients	Standard D	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1549.34	9789.397	-0.15827	0.878716	-24697.6	21598.89	-24697.6	21598.89
X Variable 1	0.710649	0.111626	6.366326	0.000379	0.446695	0.974603	0.446695	0.974603