A STUDY OF INTERREGIONAL TOURISM DEMAND. THE BASIS FOR COOPERATION*

Pang Looi Fai

Sunway University

Introduction

Tourism has a significant impact on the economy of a country, resulting in job creation, additional income, foreign receipts, higher investments and opportunities for development. The direct contribution to Gross Domestic Product (GDP) is illustrated by figure 1. whereby the sources of tourism revenue namely domestic tourists, inbound tourists and government spending on tourism promotion and infrastructure results in the purchase of tourism goods like accommodation, retail goods, food and beverage, transportation, entertainment and this in turn affect the industrial sectors of hotels, retail, food and beverage and transportation. Capital investments by private sectors on assets such as hotels, airports, restaurants and visitor sites together with government spending on tourism promotions, visitor information and other public services constitutes tourism's indirect contribution to GDP. Additionally the supply chain effects of purchasing domestic goods and services by various tourism sectors as inputs to their final tourism product simulates economic activity.

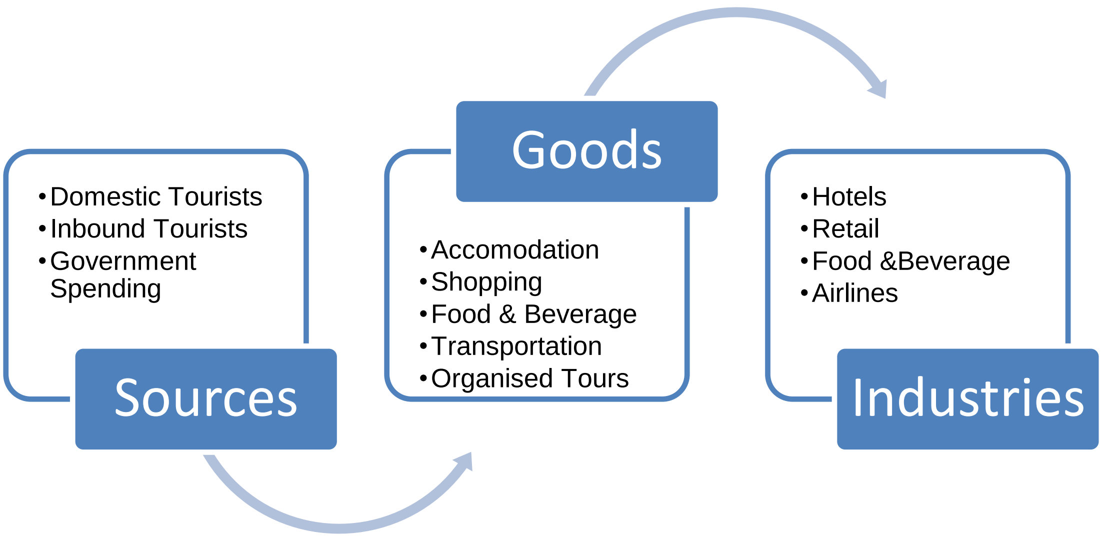


Figure 1 Tourism Contribution

*Paper presented at Academic Seminar "China-ASEAN Cooperation in the 21st Centuary: Challenge and Prospect", 12-13 December 2011, Xiamen University

Tourism's economic influence is expressed in quantifiable terms as follows; in 2010, international tourism receipts totalled US$ 919 billion, which is approximately US$ 3 billion a day of international trade. Tourism exports account for as much as 30% of the world's exports of commercial services and 6% of overall exports of goods and services. As an export category, tourism ranks fourth after fuels, chemical and automotive products. (World Tourism Organisation (UNWTO), 2011).

In terms of destination preferences for 2010 France is ranked first, China third and Malaysia ninth in terms of tourist arrivals (table 1).

Table 1: Top ten international tourist arrivals

Top ten tourist arrivals International Tourist Arrivals		
Rank		million 2010
1	France	76.8
2	United States	59.7
3	China	55.7
4	Spain	52.7
5	Italy	43.6
6	United Kingdom	28.1
7	Turkey	27.0
8	Germany	26.9
9	Malaysia	24.6
10	Mexico	22.4

Source: World Tourism Organisation (UNWTO)

Data as collected by UNWTO, 2011

Regionally, Asia and the Pacific was the fastest growing region for 2010 as shown in table 2, with China having 27.3% and Malaysia 12.1% of the regional market share.

Table 2. Arrivals and Receipts Asia and Pacific (2009-2010)

	Tourism Arrivals ('000)				Tourism Receipts (US$million)					
Major Destinations	2009	Share (%)	2010	Share (%)	2009	Share (%)	Per capita (US$)	2010	Share (%)	Per capita (US$)
Asia and Pacific	181,189	100	203,838	100	203,741	100	1,124	248,659	100	1,220
Australia	5,584	3.1	5,885	2.9	25,594	12.6	4,583	30,103	12.1	5,115
Cambodia	2,046	1.1	2,399	1.2	1,185	.6	579	1,260	0.5	525
China	50,875	28.1	55,665	27.3	39,675	19.5	780	45,814	18.4	823
Hong Kong	16,926	9.3	20,085	9.9	16,463	8.1	973	22,951	9.2	1,143
Indonesia	6,324	3.5	7,003	3.4	6,318	3.1	999	6,980	2.8	997
Japan	6,790	3.7	8,611	4.2	10,305	5.1	1,518	13,199	5.3	1,533
Korea	7,818	4.3	8,798	4.3	9,442	4.6	1,208	9,765	3.9	1,110
Macao	10,402	5.7	11,926	5.9						
Malaysia	23,646	13.1	24,577	12.1	15,772	7.7	667	17,819	7.2	725
Phillipines	3,017	1.7	3,520	1.7	2,329	1.1	772	2,783	1.1	791
Singapore	7,488	4.1	9,161	4.5	9,187	4.5	1,227	14,128	5.7	1,542
Taiwan	4,395	2.4	5,567	2.7	6,959	3.4	1,583	8,648	3.5	1,553
Thailand	14,145	7.8	15,842	7.8	15,901	7.8	1,124	19,760	7.9	1,247
Vietnam	3,747	2.1	5,050	2.5	3,050	1.5	814	4,450	1.5	881

Source: World Tourism Organisation (UNWTO), data as collected by UNWTO, 2011

In order to appreciate China-ASEAN cooperation, this paper reviews the development of tourism in China, Malaysia and the ASEAN bloc. The paper also explores intra country tourism demand as a basis for strategic alliances.

Chinese Tourism

China opened its doors to the outside world in 1979, following the decision of the Central Committee of the Communist Party of China at the end of 1978. From that period onwards tourism began to take on a more economic role as a foreign exchange earner. Tourism businesses in the early 1980s were under the preview of the China National Tourism Association (CNTA) with two core agencies namely China Travel Services (CTS) which handled overseas Chinese and Chinese from Hong Kong and Macao and the China International Travel Service (CITS) which dealt with other foreign inbound tourists (Zhang, Pine, & Lam, 2005). Developments in the mid 1980s led to the decline of the monopolies of CTS and CITS in favour of the emerging private sector.

As a foreign exchange earner, outbound tourism was initially restricted to prevent an outflow of Chinese funds. The Approved Destination Status (ADS) restricted travel and allowed travel only to countries with a large Chinese population, starting with Hong Kong and Macao, followed by Thailand, Malaysia and Singapore. The initial tourism inflows and outflows were influenced by the Chinese diaspora and “gangxi” phenomena. (Lew & Wong, 2004)

However, with the growth of the Chinese economy and the increase of ADS countries, outbound tourism began to overtake inbound tourism and by 2009 Chinese tourism revenue began to show a deficit namely the expenditure of outbound tourists exceeding the revenue from inbound tourists and by 2010 revenue from inbound tourists were US$46billion whereas expenditure by outbound tourists were US$55billion (UNWTO Tourism Highlights 2011). A cause of this is the change in the income of inbound and outbound tourists. Studies have shown that income is a major determinant of tourist demand. (Jackman & Greenidge, 2010), (Nicolau, 2010), (A. Saayman & M. Saayman, 2008), as such the General Economic Crisis (GEC) of 2008 and its continuing influence on the world economy has affected inbound tourism to China (World Tourism Organisation (UNWTO), 2010), (ShiNa, Blake, & Cooper, 2010). Whereas the GEC has affected inbound tourists adversely, the booming Chinese economy has increase the demand for outbound tourism, making China the third largest tourism spenders in 2010 as shown by the table 3 below.

Table 3. Tourism Top Spenders 2009-2010

Rank	*Country*	*International Tourism Expenditure (US$ billion)*	
		2009	*2010*
	World	*851*	*919*
1	*Germany*	*81.2*	*77.7*
2	*United States*	*74.1*	*75.5*
3	*China*	*43.7*	*54.9*
4	*United Kingdom*	*50.1*	*48.6*
5	*France*	*38.5*	*39.4*
6	*Canada*	*24.2*	*29.5*
7	*Japan*	*25.1*	*27.9*
8	*Italy*	*27.9*	*27.1*
9	*Russian Federation*	*20.9*	*26.5*
10	*Australia*	*17.6*	*22.5*

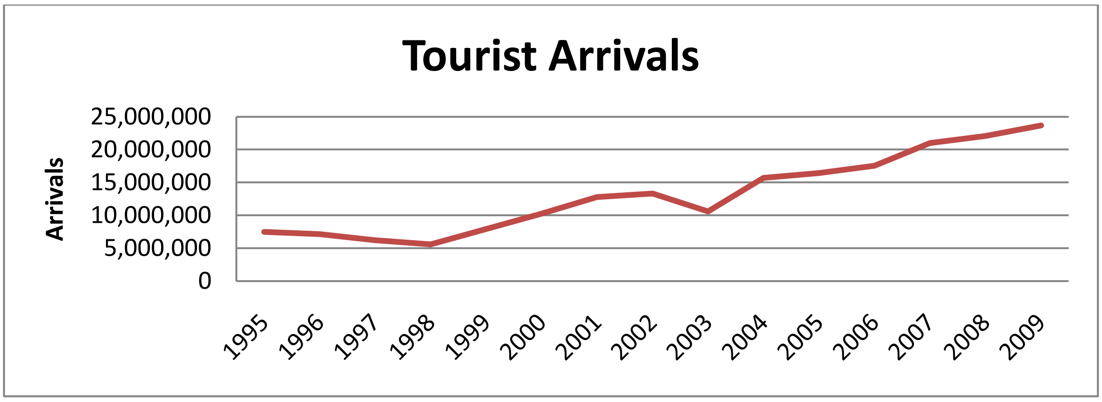
Source : UNWTO Tourism Highlights 2011

Malaysian Tourism

Malaysia's tourism development was institutionalised by the formation of the Cultural Department in 1953 under the British Administration of Malaysia. After independence, tourism came under the preview of the Ministry of Culture, Sport and Youth. The Second Malaysia Plan (1971-1974) which set out development policies, incorporated various initiatives like the formation of a national tourism agency to market tourism. In 1972 the Tourism Development Corporation (TDC) was formed and from this point onwards serious attention was paid towards tourism. A notable event was the Pacific Asian Travel Associations (PATA) conference in 1972 which highlighted Malaysian tourism to the international community. In 1975 a National Tourism Master Plan (NTMP) was conceived that outlined tourism regions in Malaysia for development. In 1987, the Ministry of Culture, Arts and Tourism (MOCAT) was established and TDC moved to this new ministry. The first 'Visit Malaysia Year'(VMY) was held in 1990 and consisted of year long promotions. The National Tourism Policy of 1991 was implemented to replace the National Tourism Master Plan of 1975 and the TDC was replaced by the Malaysian Tourism Promotion Board (MTPB) or commonly known as Tourism Malaysia in 1992. Following the success of the first VMY, the second VMY was held in 1994. By then tourism had become an important economic sector that a new ministry the Ministry of Tourism also known as MOTOUR was formed in 1995 and MTPB (Tourism Malaysia) was transferred to the new ministry. The Ninth Malaysian Plan (2006-2010) advocated the establishment of state tourism and cultural boards and eco-tourism development through agriculture and rural tourism development

Except for a dip in 2003, tourism arrivals to Malaysia has been increasing as shown by figure 2 below.

Figure 2: Malaysian tourism arrivals



Source: Tourism Malaysia

In 2009, Malaysia obtained RM55 billion in receipts from 23.6 million arrivals (Source: Bank Negara and Tourism Malaysia), generating RM37 billion in Gross National Income (GNI) making tourism Malaysia's fifth largest industry. In view of tourism's significant contribution to national GDP, namely the third largest major foreign earner in 2009 after manufactured goods and crude oil, the Economic Transformation Programme (ETP) in 2010 has identified tourism as one of the National Key Economic Areas (NKEA) or growth engines to transform Malaysia into a high income country. (*Economic Transformation Programme: A Roadmap for Malaysia*, 2010)

The Economic Transformation Programme is a new economic model that focuses on key growth engines named National Key Economic Areas (NKEAs) with the intention of transforming Malaysia into a high income nation by 2020. Core emphasises will be on the services sectors, moving away from an agricultural and manufacturing economy to developing a more productive workforce that is driven by skills, innovation and knowledge to support the services sector. The Performance Management and Delivery Unit (PEMANDU) was created to manage delivery of these targets.

As stated by Malaysia's Tourism Minister, Dato' Sri Dr. Ng Yen Yen when launching tourism's NKEA;

> "The tourism sector will continue to be in the forefront of Malaysia's economic development. This sustainable and high yield sector will continue to drive Malaysia's economy, providing income and job opportunities to the Rakyat (citizens)"

Malaysia's Tourism Highlights

1953	• Formation of Cultural Department
1960	• Formation of the Ministry of Culture, Sport and Youth
1972	• Formation of the Tourism Development Corporation (TDC) • PATA conference in Kuala Lumpur
1975	• Establishment of a National Tourism master Plan
1987	• Formation of the Ministry of Culture, Arts and Tourism
1991	• Inaugural Visit Malaysia Year (VMY)
1992	• TDC replaced by Tourism Malaysia
1995	• Formation of Ministry of Tourism
2010	• Tourisn was desigiated a National Key Economic Area in the Economic Transformation Programme

ASEAN Tourism

Tourism in ASEAN has been steadily increasing as shown by the table 4 below. Consequently tourism has recently been recognised by ASEAN as a powerful industry for economic growth.

Table 4. Tourism arrivals to ASEAN

Origin	Number of tourist arrivals ('000)					Share to total (%)					Change
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010	09-10
ASEAN	25,396.6	27,341.3	30,276.4	31,693.8	34,817.4	44.6	43.9	46.1	48.3	47.3	9.9
Japan	3,367.7	3,701.4	3,623.8	3,214.0	3,349.8	5.9	5.9	5.5	4.9	4.5	4.2
China	3,335.3	3,926.4	4,471.5	4,201.7	5,407.1	5.9	6.3	6.8	6.4	7.3	28.7
Korea	3353.3	3,538.7	2,657.1	2,448.7	3,285.7	5.9	5.7	4.1	3.7	4.5	34.2
Australia	2,062.6	2,434.6	2,904.5	3,028.6	3,457.9	3.6	3.9	4.4	4.6	4.7	14.2
New Zealand	354.1	300.7	319.7	272.3	287.9	0.6	0.5	0.5	0.4	0.4	5.7
European Union	5,408.0	6,566.0	6,936.0	6,668.7	6,839.7	9.5	10.5	10.6	10.2	9.3	2.6
USA	2,489.9	2,537.3	2,653.3	2,553.4	2,679.2	4.4	4.1	4.0	3.9	3.6	4.9
Canada	497.5	543.8	508.9	455.9	497.7	0.9	0.9	0.8	0.7	0.7	9.2
India	1,469.6	1,813.7	1,984.7	2,103.6	2,476.3	2.6	2.9	3.0	3.2	3.4	17.7
Pakistan	102.1	118.4	150.5	159.1	92.1	0.2	0.2	0.2	0.2	0.1	-42.1

Source : ASEAN Tourism Statistic Database

As such the ASEAN Tourism Strategic Plan (ASTP) 2011-2015 was endorsed by the ASEAN Tourism Ministers at their 14th Meeting. (Association of South East Asian Nations (ASEAN), 2011a). The ASTP succeeded the Roadmap for the Integration of Tourism Sector (RITS) which was completed in 2010. The ASTP seeks to provide strategic direction in developing tourism products and creative marketing and investment especially in human capital development, services and facilities. In the spirit of ASEAN solidarity the Plan also seeks to facilitate travel into and within ASEAN and at the same time deepen social and cultural understanding. ASEAN tourism cooperation, will be realigned and restructured to improve economies of scale and to efficiently use scarce resources. The goals as set by the Plan are:

> "By 2015, ASEAN will provide an increasing number of visitors to the region with authentic and diverse products, enhanced connectivity, a safe and secure environment, increased quality of service, while at the same time ensuring an increased quality of life and opportunities for residents through responsible and sustainable tourism development by working effectively with a wide range of stakeholders."
>
> Source: ASEAN Tourism Strategic Plan (2011-2015)

Various initiatives were adopted in line with the ASTP namely;

A Mutual Recognition Agreement (MRA) on tourism professionals to increase the equality of tourism human resource and to allow the mobility of tourism professionals among member states. This is complimented by the ASEAN Minimum Competency Standards for Tourism which provides the basis for recognition of tourism qualifications.

To enhance services and facilities, ASEAN member states, adopted the standardisation of green hotels, food and beverage services, public restrooms, home stays, ecotourism and tourism heritage.

A roadmap was prescribed by ASEAN and it included engaging the private sector to participate in joint promotion and marketing of ASEAN tourism activities evidenced by the webpage www.asean-tourism.com These involve using the Visit ASEAN Campaign logo, developing a common ASEAN audio-visual presentation and an ASEAN tourism portal. Joint promotions would include organising collectively an ASEAN Tourism Area in international tourism events as demonstrated in this website for ASEAN travel agents, www.aseanta.org . The identified tourism markets in the ASTP suitable for joint promotions, are China, Japan, Republic of Korea, India, US, EU and Russia;

In the area of tourism products the ASTP recommended developing the cruise sector with cruises to ASEAN member countries. Other products identified were ASEAN Tourism Heritage Sites and eco-tourism.

In the development of tourism infrastructure, the Plan proposes an ASEAN Tourism Investment Forum to study tourism areas which can be promoted for investment. Improvements in tourism support services include establishing an ASEAN tourism standards initially focusing on environmental management certification system for hotels, establishing ASEAN minimum competency standards for tourism professionals, developing an intra-ASEAN curriculum and developing the language capacity of local tourist guides. Research can be enhanced by creating an ASEAN Tourism Research Databank.

Events like natural disasters of earthquakes, floods, SARS had adversely affected tourism. As such the ASTP had proposed an ASEAN Crisis Communication Framework and Action Plan to mitigate the decline in tourist arrivals.

Parts of the ASTP have already be implemented for example cooperation with Dialogue Partners of Japan and Korea included assistance from the ASEAN-Japan Center in training tour guides, front liners and officials from the national and local tourism offices, production of audio-visual materials as evidenced by the web site www.asean.or.jp/en/tourism/ . Whereas the ASEAN-Korea Center established in 2009, organised the ASEAN Culture and Tourism Fair, producing audio visual materials in Korean, organised training programs on Korean tourism trends, the Korean language and culture .(Association of South East Asian Nations (ASEAN), 2011b)

China – ASEAN Tourism Cooperation

China – ASEAN tourism began with inbound tourism into China from 1978, whereas outbound travel was initially permitted to countries with large Chinese communities, starting with Hong Kong and Macao and later to ASEAN countries of Thailand, Malaysia and Singapore and the Philippines. The Approved Destination Status (ADS) bilateral trade agreement allowed Chinese tourists to visit countries listed as ADS and only ADS countries can be promoted in China.

According to ASEAN statistics, (table 5 below), ASEAN received 5.4 million arrivals from China in 2010 with a growth of 28%. As such China has become the second largest source market for ASEAN. At the same time ASEAN Member States are also important source markets for China. At the 13th ASEAN-China Summit in October 2010 in Ha Noi, China pledged to realise two-way tourist arrivals to 15 million by 2015. This is in line with an outward looking ASEAN referred to as the ASEAN Vision 2020. This has been initiated by the ASEAN Plus Three cooperation informal summit among ASEAN leaders and their counterparts from East Asia, namely China, Japan and the republic of Korea. Subsequently, bilateral trading agreements have been forged between ASEAN member countries and Japan, Korea and China, with a long term goal of an East Asian Free Trade Agreement (FTA)

Table 5: Top ten country/regional visitors to ASEAN
As at 15 August 2011

Origin	2008		Origin	2009		Origin	2010	
	Number of tourists ('000)	Share to total (%)	Origin	Number of tourists ('000)	Share to total (%)	Origin	Number of tourists ('000)	Share to total (%)
ASEAN	30,276.4	46.1	ASEAN	31,693.8	48.3	ASEAN	34,817.4	47.3
EU	6,936.0	10.6	EU	6,668.7	10.2	EU	6,839.7	9.4
China	4,471.5	6.8	China	4,201.7	6.4	China	5,407.1	7.3
Japan	3,623.8	5.5	Japan	3,214.0	4.9	Australia	3,457.9	4.7
Australia	2,904.5	4.4	Australia	3,028.6	4.6	Japan	3,349.8	4.5
Korea	2,657.1	4.1	USA	2,553.4	3.9	Korea	3,285.7	4.5
USA	2,653.3	4.0	Korea	2,448.7	3.7	USA	2,679.2	3.6
India	1,984.7	3.0	India	2,103.6	3.2	India	2,476.3	3.4
Taiwan	1,514.0	2.3	Taiwan	1,369.6	2.1	Taiwan	1,549.4	2.1
Hong Kong	911.3	1.4	Hong Kong	851.0	1.3	Hong Kong	905.3	1.2

Source: ASEAN Tourism Statistic Database

With the uncertain economic situation in Europe and USA, the number of tourists from these countries are expected to drop. However tourism growth is expected to grow strongly in the Asia and Pacific region. The UNWTO reported a 13% growth by the Asia and Pacific region, whereas a 6% growth in the Americas and 3% growth in Europe (UNWTO Tourism Highlights 2011). As such a China – ASEAN collaboration would be mutually beneficial.

An example of an ASEAN – China cooperative effort is the establishment of ASEAN-China Centre to promote trade in the tourism sector http://www.asean-china-center.org/english/2011-05/18/c_13880562.htm

Regional Travel

Tourists are not homogeneous and as such their destination preferences may vary. A study by (Chang, Khamkaew, & McAleer, 2010) on Thai outbound tourists to China, Hong Kong, Japan, Taiwan and Korea indicated that there is a substitution effect between China-Korea, Japan-Hong Kong, whereas there is a complimentary effect between China-Hong Kong, China-Japan. Another study by (Mohd Salleh, Othman, Mohd Noor, & Hasim, 2010) on Middle East travellers concluded that Malaysia and Indonesia are substitute countries.

Table 6. Arrivals and Receipts Asia and Pacific (2009-2010)

	Tourism Arrivals ('000)				Tourism Receipts (US$million)					
Major Destinations	2009	Share (%)	2010	Share (%)	2009	Share (%)	Per capita (US$)	2010	Share (%)	Per capita (US$)
Asia and Pacific	181,189	100	203,838	100	203,741	100	1,124	248,659	100	1,220
Australia	5,584	3.1	5,885	2.9	25,594	12.6	4,583	30,103	12.1	5,115
Cambodia	2,046	1.1	2,399	1.2	1,185	.6	579	1,260	0.5	525
China	50,875	28.1	55,665	27.3	39,675	19.5	780	45,814	18.4	823
Hong Kong	16,926	9.3	20,085	9.9	16,463	8.1	973	22,951	9.2	1,143
Indonesia	6,324	3.5	7,003	3.4	6,318	3.1	999	6,980	2.8	997
Japan	6,790	3.7	8,611	4.2	10,305	5.1	1,518	13,199	5.3	1,533
Korea	7,818	4.3	8,798	4.3	9,442	4.6	1,208	9,765	3.9	1,110
Macao	10,402	5.7	11,926	5.9						
Malaysia	23,646	13.1	24,577	12.1	15,772	7.7	667	17,819	7.2	725
Phillipines	3,017	1.7	3,520	1.7	2,329	1.1	772	2,783	1.1	791
Singapore	7,488	4.1	9,161	4.5	9,187	4.5	1,227	14,128	5.7	1,542
Taiwan	4,395	2.4	5,567	2.7	6,959	3.4	1,583	8,648	3.5	1,553
Thailand	14,145	7.8	15,842	7.8	15,901	7.8	1,124	19,760	7.9	1,247
Vietnam	3,747	2.1	5,050	2.5	3,050	1.5	814	4,450	1.5	881

Source: World Tourism Organisation (UNWTO), data as collected by UNWTO, 2011

The above table 6 showed that although tourism arrivals and receipts for China and Malaysia increased from 2009, their percentage share of arrivals and receipts declined whereas their neighbours increased. A possible cause may be the growth of Low Cost Carriers (LCC) and the promotion of a Open Skies policy has facilitated easier and cheaper short haul travel between countries in a region. The ASEAN Senior Transport Officials Meeting (STOM) and ASEAN Transport Ministers have adopted the ASEAN Strategic Transport Plan called the Brunei Action Plan 2011 – 2015. This together with the ASEAN Multilateral Agreement on Full Liberalization of Passenger Air Services (MAFLPAS) and the ASEAN Multilateral Agreement on Air Services (MAAS) seek to achieve an ASEAN Single Aviation Market (ASAM) by 2015. In addition ASEAN member states are coordinating to build an ASEAN highway network and the Singapore – Kunming Rail Link to be completed by 2015.

In a joint media statement of the tenth meeting of ASEAN, China, Japan and Republic of Korea Tourism Ministers held at Phnom Penh on 18 January 2011, the ministers express support for MAFLPAS and in addition the ASEAN-China Air Transport Agreement and the ASEAN-ROK Air Transport Agreement

The ASEAN Strategic Tourism Plan (ASTP) seeks to increase the number of tourists to the ASEAN member states by promoting ASEAN as a region. Initiatives include the free skies plan, easing of visa application to facilitate inter country travel. Competition will intensify between member states to attract tourists. Strategic alliances between member states would encourage economies of scale and prevent unhealthy competition. A knowledge of the substitute and complimentary countries would be useful in determining which countries to form alliances with. Malaysia's nearest neighbours are Indonesia, Singapore and Thailand.

Determining tourism demand

Tourism can be viewed as source of export and based on this the tourism demand function for the tourism product in destination *i* by residents of origin *j* can be expressed as;

$Q_{ij} = f(P_i, Y_j, P_s, \varepsilon_{ij})$

Where Q_{ij} is the quantity of the tourism product demanded in destination *i* by tourists from country *j*

P_i is the price of tourism for destination *i*

Y_j is the level of income in origin country *j*

P_s is the price of tourism for substitute destinations *k*

ε_{ij} is the error term that captures all other factors which may influence the quantity of the tourism product demanded in destination *i* by residents of origin *j*

Method

A single equation demand model is used to estimate the determinants of tourism demand. The theoretical tourism demand model of $Q_{ij} = f(P_i, Y_j, P_s, \varepsilon_{ij})$ is operationalised by applying double-logarithmic regression to develop the functional linear form model. The double log will transform the relationships of the variables into a linear form.

The estimation demand determinants are expressed in the long run functional linear form model as follows;

$$lnq_{jt} = \beta_0 + \beta_1 lny_{jt} + \beta_2 lnpr_{Mit} + \beta_3 lnps_{Ijt} + \beta_4 lnps_{Sjt} + \beta_5 lnps_{Tjt} + \beta_6 d + \varepsilon_{it} \qquad (3.1)$$

where the subindex *j* is for countries, *t* is for time and *ln* denotes logarithm.

lnq_{jt} = Log of the tourist arrivals who travel from the country of origin *j* to Malaysia during year *t*.

lny_{jt} = Log of the real gross domestic product per capita of country of origin *j* during year *t*.

$lnpr_{Mit}$ = Log of the cost of living in relative prices for a tourist from the country of origin *j* to Malaysia at time *t*.

$Lnps_{Ijt}$ = Log of the price of tourism in the competing destination Indonesia (I) for tourist from the country of origin *j*, in year *t*.

$lnps_{Sjt}$ = Log of the price of tourism in the competing destination Singapore (S) for tourist from the country of origin *j*, in year *t*.

$lnps_{Tjt}$ = Log of the price of tourism in the competing destination Thailand (*T)* for tourist from the country of origin j, in year *t*.

d = Dummy variable to capture the effect of the exogenous shock, taking the value of 1 if shock is observed and 0 if otherwise.

The expected signs for coefficients of explanatory variables are as follows:

$\beta_1 > 0; \quad \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, < 0$

As the purchasing power of the tourist is affected by the relative exchange rate, the prices are adjusted by the exchange rate. This is represented as a ratio of the consumer price index of the host country (cpi_{it}) to that of the country of origin (cpi_{jt}) adjusted by the relative exchange rate (er_{ijt}) to obtain a proxy for the price of tourism goods.

Hence the relative price of tourism is defined in proxy terms by the relative CPIs is as follows:

$$rp_{it} = \left(\frac{cpi_{it}}{cpi_{jt}}\right) * 1/er_{jt}$$

Where rp_{it} is relative price variable in destination i in period t

cpi_{it} is consumer price index in destination i in period t

cpi_{jt} is consumer price index in origin j in period t

er_{it} is an index of the price of origin currency in terms of destination i currency in period t

Another determinant variable is that of substitutes (ps_{jt}). Tourist demand for a particular destination may also be affected by changes in the price of other alternative destination. The price of tourism for substitute destinations refers to the relative price of tourism in Indonesia, Singapore and Thailand. It is assumed that an increase in the price of tourism in Malaysia will increase demand in these countries if they are substitutes but if the demand falls in these countries when the price of tourism in Malaysia increase they would be considered complementary destinations.

Empirical results and policy implications

Table 7 shows the result of the panel data model. All the variables have the expected signs, however the income represented by the GDP of the source country has an insignificant influence on tourism arrivals but the price of tourism products is important to tourists to Malaysia

Table 7: Estimation results of tourism demand model

	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.122011	8.154881	-0.382840	0.7027
GDP	0.260299	0.180574	1.441509	0.1526
Price in Malaysia	-3.044796	2.035054	-1.496175	0.1378
Price in Indonesia	-1.495337	0.667878	-2.238937	0.0274
Price in Singapore	-1.649994	2.864418	-0.576031	0.5659
Price in Thailand	-0.458526	0.324742	-1.411970	0.1611
DSARS	-0.111648	0.068510	-1.629669	0.1064
DGEC	0.063915	0.070417	0.907675	0.3663
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.978425	Mean dependent var		11.47301
Adjusted R-squared	0.973802	S.D. dependent var		1.122330
S.E. of regression	0.181658	Akaike info criterion		-0.409236
Sum squared resid	3.233976	Schwarz criterion		0.101804
Log likelihood	46.55415	Hannan-Quinn criter.		-0.201700
F-statistic	211.6343	Durbin-Watson stat		1.179887
Prob(F-statistic)	0.000000			

The negative coefficient of Indonesia, Singapore and Thailand indicates that all three countries are complement countries. The effect of the SARS epidemic in 2003 has a effect of tourist arrivals, whereas the General Economic Crisis had a insignificant influence on tourist arrivals.

Conclusion

Tourism is a service industry where its products have unique characterises like intangibility where its value is based on the experiences of the consumer, furthermore the product has fixed spatial and as such the buyer has to travel to the supply and tourism export is the amount of inbound tourist expenditure. The findings indicate that countries surrounding Malaysia are complement destinations and their tourism demand are directly related. An increase in the tourist arrivals to Malaysia would also result in an increase in these countries. This suggests that interregional tourism is present. The development of LCCs have encouraged travel within a region. However rather than competing, the countries should develop cooperative strategic alliances on tourism as this would increase revenue by reducing cost by not duplicating resources. In addition, the identification of tourism products that can provide comparative advantage will encourage a country to stay focus on its core competence, in turn providing more and better products to sell regionally. Furthermore niche tourism products would encourage travel within ASEAN. The development of cruises within ASEAN, a common visa for ASEAN and the open skies policy are the initiatives suggested by ASEAN to travel within ASEAN. Inline with the ASEAN philosophy of cooperation, the goal should be to develop tourism regionally rather than competitively.

References

Association of South East Asian Nations (ASEAN). (2011a). *ASEAN Tourism Strategic Plan 2011-2015*. Jakarta, Indonesia: Association of South East Asian Nations.

Association of South East Asian Nations (ASEAN). (2011b). *Joint Media Statement of the Tenth Meeting of ASEAN, China, Japan and Republic of Korea Tourism Ministers (10th M-ATM Plus Three) Phnom Penh, 18 January 2011*. Phnom Penh: ASEAN.

Chang, C.-L., Khamkaew, T., & McAleer, M. (2010). Estimating Price Effects in an Almost ideal Demand Model of Outbound Thai Tourism to East Asia. *CIRJE Discussion Paper*.

Economic Transformation Programme: A Roadmap for Malaysia. (2010). .

Jackman, M., & Greenidge, K. (2010). Modelling and forecasting tourist flows to Barbados using structural time series models. *Tourism and Hospitality Research*, *Vol 10*(No 1), pp 1-13.

Lew, A. A., & Wong, A. (2004). Sojourners, Gangxi and Clan Associations: Social Capital and Overseas Chinese Tourism to China. *Tourism Diasporas and Space* (pp. pp 202-214). London: Routledge.

Mohd Salleh, N. H., Othman, R., Mohd Noor, A. H. S., & Hasim, M. S. (2010). Malaysian Tourism demand From the Middle East market: A Preliminary Analysis. *International Journal of West Asian Studies*, *2*(1), pp 37-52.

Nicolau, J. L. (2010). Anomaly in Spanish tourist sensitivity to price. *Tourism Economics*, *Vol. 16*(No. 4), pp 915-923.

Saayman, A., & Saayman, M. (2008). Determinants of inbound tourism to South Africa. *Tourism Economics*, *Vol 14*(No 1), pp 81-96.

ShiNa, L., Blake, A., & Cooper, C. (2010). China's tourism in a global financial crisis: a computable general equilibrium approach. *Current Issues in Tourism*, *Vol 13*(No 5), pp 435-453.

World Tourism Organisation (UNWTO). (2010). *UNWTO Tourism Highlights, 2010 Edition*. UNWTO. Retrieved from www.unwto.org

World Tourism Organisation (UNWTO). (2011). *UNWTO Tourism Highlights, 2011 Edition*. UNWTO.

Zhang, H. Q., Pine, R., & Lam, T. (2005). *Tourism and Hotel Development in China: From political to economic success*. New York: Haworth Hospitality Press.