Tourism Development Policy, Strategic Alliances and Impact of Consumer Price Index on Tourist Arrivals: The Case of Malaysia

Nanthakumar, Loganathan and Ibrahim, Yahaya and Harun, Madzli

University Malaysia Terengganu, University Kebangsaan Malaysia, University Malaysia Terengganu

6 July 2007

TOURISMOS: AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF TOURISM
Volume 3, Number 1, Spring 2008, pp. 83-98

TOURISM DEVELOPMENT POLICY, STRATEGIC ALLIANCES AND IMPACT OF CONSUMER PRICE INDEX ON TOURIST ARRIVALS: THE CASE OF MALAYSIA

Loganathan Nanthakumar
University Malaysia Terengganu

Yahaya Ibrahim
University Kebangsaan Malaysia

Madzli Harun
University Malaysia Terengganu

Many studies have shown the importance of tourism industry in enhancing trade performance and economic development. This study examines the hypothesis of 'economic-driven' tourism growth in Malaysia by using econometric modelling. To generate the empirical analysis, this study used data from 1980-2007 to analyze the economic-driven tourism growth by using vector autoregressive (VAR) estimation. The long-run relationship between specific variables is considered using the Johansen and Juselius cointegration analysis. Finally, Granger-causality results implies causal relationship of economic-driven tourism growth in Malaysia. Therefore, this study suggests policies and strategies to overcome the importance of economic-driven tourism in Malaysia in the future.

Keywords: *Tourism, economic growth, consumer price index*

INTRODUCTION

Why do people need travelling and tourism activities? Generally, it is thought that these particular activities enhance and develop their knowledge, experiences and provide insights into cultural differences. According to the World Tourism Organization (WTO) report, international tourism encompasses the activities of visitors who make a visits across their own residential area to the international borders, and remain there more than 24 hours. The main reasons for travelling are leisure, businesses, conventions and seminars, meetings, study abroad,

religion purposes as well sports or games. As tourism activities involve both the consumption and purchase of goods and services among the travellers, the impact of these activities would be reflected in the various sectors of the national economy. In the Malaysian context, most of the travellers visit this country to experience the natural beauty of its beaches, forests, flora and fauna.

Generally, in the 1970s, the tourism industry was not regarded as an important economic activity but after the establishment of Tourism Development Corporation of Malaysia (TDC) in 1972, the agency responsible for developing tourism activities in the country, tourism took on greater significance but Malaysia still remained a relatively little known destination, while, the neighbouring countries in the region such as Singapore, Thailand and Indonesia built and their reputation as mass tourism destinations in the region.

However in the 1980s, the tourism industry became more important for the Malaysia. This evident as government and private sector invested about $US350 million per year in new facilities and capital equipment, representing 7.3% of total worldwide capital investments.

Almost 6.5% of the world's workforce was employed by the industry, and the main reasons for this growth was the increase in personal income and leisure time, improvement in international transportation systems and greater public awareness of other parts of the world due to improved communication.

Tourism is one of the fastest growing services industries in the global economy and it has flourished tremendously over the years as a source of revenue to the country. In Malaysia, the economic impact of tourism is felt mostly by sectors such as transportation, services, hospitality and tourism related retail businesses. The tourism industry in Malaysia has faced many challenges over an extended period. These challenges are predominantly exogenous economic events that have had an impact on international tourism demand, and it includes the oil crises in the 1970s, economic and financial turmoil at Asia in the late 1990s, and the September 11 incident in the United States. Although the tourist arrival rate to Malaysia from foreign countries has experienced some dramatic changes in previous years, the conditional variance of the arrival rate has not been investigated in the tourism literature.

TOURISM DEVELOPMENT IN MALAYSIA

In Malaysia, the tourism industry showed an upward trend until the onset of the financial crisis in the 1980s and 1990s. During the 1980s, the

Tourism Development Corporation (TDC) was aggressively engaged in promotions and publicity campaigns both domestic and abroad to entice travellers and tourists to Malaysia. Despite the efforts, the number of tourist arrivals only increased slightly in the 1980s when the Malaysian government launched the Visit Malaysia Year campaign in 1990, from now on the tourism industry has become the third biggest foreign exchange earner (Eight Malaysia Plan, 2001). However, there was a dramatic downturn in worldwide travel in the aftermath of the Gulf War. Reflecting that environment, the number of tourist arrivals decreased moderately. The second Visit Malaysia Year was launched in 1994 and it showed an increase in the number of tourist arrivals but the growth rate remained far behind compared to the first campaign in 1990.

Beside that, in the context of percentage growth in the total receipt, it outweighed by almost RM4 billion. In the mid 1990s, Malaysia faced a series of diseases and environment problem, such as Coxsackie's B in Sarawak, haze problem, bird flu in Thailand and it was reflected in the decline of tourist arrivals to Malaysia. However, in the early 2000, the tourism industry in Malaysia experienced positive growth with major international conventions being held in Malaysia such as Union of Forestry Research Organization Congress in 2000, 50th PATA Annual Conference in 2001, NAM meeting in 2005, OIC meeting in 2004 and Monsoon Cup in 2005. Besides that, events such as CITRAWARNA Malaysia Festival, Malaysia Mega Sale Carnival and international exhibitions boosted tourist arrivals to Malaysia.

As stated as in the Eight Malaysia Plan, for the period 1980-1984 total receipts from tourist arrivals amounted to RM5,578 million and it increased to RM9, 948 million for the period 1985-1989. In the 1990s, tourist arrivals increased and total receipts for 1990-1994 stood at RM26,742 million. For the period 1995-1999, total receipts increased 87% to RM50, 129 million. During the Eight Malaysia Plan, the tourism industry performed favourably as reflected in the growth of tourist arrivals and tourist receipts. The share of tourism revenue in total earnings of the services account of the balance of payments increased from 32.7% in 2000 to 43% in 2005.

The tourism industry has remained robust despite the economic slowdown in the first half of the Eight Malaysia Plan, whereby, the industry continued to be a key foreign exchange earner, contributing to growth, investment and employment as well as strengthening the services account of the balance of payments. The resilience of the industry was largely attributed to the active participation of both the public and private sectors in undertaking vigorous promotion and marketing, diversifying

target markets, as well as improving competitiveness of tourism products and services to sustain interest among tourists to visit Malaysia. With the increase in tourist arrivals, foreign exchange earnings from tourism increased at an average annual growth rate of 12.4%, from RM17.3 billion in 2000 to RM31 billion in 2005, as shown in Table 1.

Table 1. Selected Tourism Indicators in Malaysia, 2000-2010

Indicator	2000	2005	2010
Number of Tourist Arrivals (million)	10.2	16.4	24.6
By Country of Origin (%)			
ASEAN	70.4	76.8	65.0
China	4.2	3.8	6.1
Japan	4.5	1.9	2.2
Australia	2.3	1.5	2.7
United Kingdom	2.3	1.5	2.8
Taiwan	2.1	1.3	2.7
India	1.3	1.2	1.8
West Asia	0.5	1.0	2.7
Others	12.4	11.0	14.0
Total Tourist Receipts[1] (RM billion)	17.3	31.0	59.4
Per Capita Expenditure (RM)	1,696	1,890	2,417
Average Length of Stay (nights)	5.8	7.2	8.7
Number of Hotels	1,492	2,256	3,218
Number of Hotel Rooms	1,24413	170,873	247,008
Average Occupancy Rate of Hotel (%)	59.2	63.5	66.4
Employment	390,600	451,000	520,700

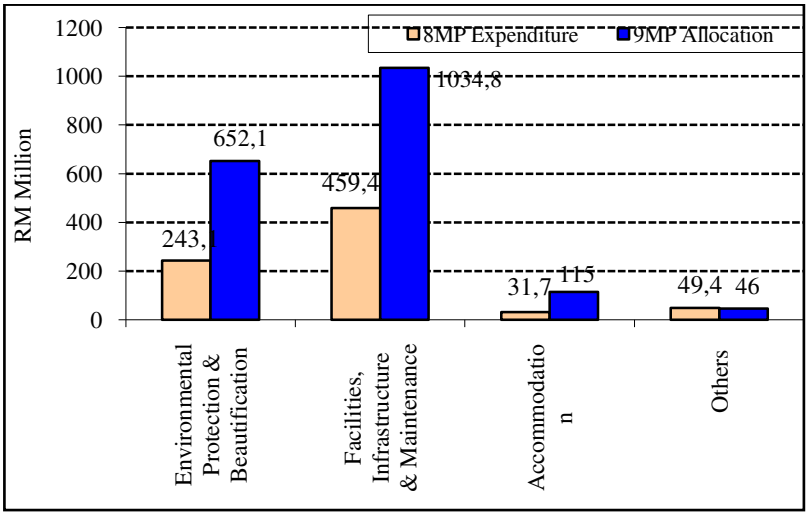
Note: [1] Tourist receipts exclude excursionist receipts
Source: Ninth Malaysia Plan, 2006

Meanwhile, during the period of Ninth Malaysia Plan, concerted efforts will be geared towards realising the full commitment and potential of the tourism industry towards enhancing its contribution to the services sector in particular, and the economy in general. The major focus will be to strengthen Malaysia's position as a leading global tourism destination as well as to promote domestic tourism. As tourism generates high multiplier effects across many sectors, it will provide a wider platform for greater inter and intra-sector linkages. Hence more coordinated efforts will be undertaken to mobilise and channel resources to upgrade the requisite tourism infrastructure and facilities as well as develop more innovative tourism products and services. High priority will continue to

be accorded to achieve more sustainable tourism development in Malaysia.

The Ministry of Tourism will take the lead in developing the tourism industry through greater marketing and promoting the country's diverse tourism products and services. These efforts will be supported by other entities, including Tourism Malaysia, state governments and local authorities. The development allocation for the tourism industry under the Ninth Malaysia Plan amounts to RM1.8 billion, as shown in Figure 1. Besides that, efforts to ensure sustainable tourism development will include the utilization of a more integrated approach in project planning and implementation in the Ninth Malaysia Plan period. In addition, Tourism Satellite Account (TSA) will be fully developed. The TSA mechanism will be able to quantify the contribution of the tourism sector to economic growth, incomes and investments in order to support subsequent policy making and readjustment of strategies and programmes for the tourism industry in Malaysia.

Figure 1. Development Expenditure and Allocation for Tourism, 2001-2010 (RM Million)



Source: Ninth Malaysia Plan, 2006

Policies towards the enhancement of the malaysian tourism environment

The tourism industry has contributed to economic growth through foreign currency exchange, labour and employment as well as wages, especially during the Seventh Malaysia Plan. Even though tourism industry has been little impact during the economic turmoil in 1997 till 1999, but actions has been taken and recovered by this industry instantly to enhancing economic growth because of the aggressive involvement by the public and private sectors. Furthermore, the successful strategies implemented by the Malaysian government through the National Re-covered Economic Plan help to re-activate the tourism industry in Malaysia.

Generally, in the Eight Malaysia Plan, investment has played an important role in this particular industry because the private sector aggressively invested in hotels and the relevant tourism and recreation projects. The investment increased RM8.8 billion on Sixth Malaysian Plan to RM 18.2 billion in the duration Seventh Malaysian Plan. Besides that, the number of hotels also increased from 1,220 on 1995 to 1,492 on 2000 because of the aggressive actions taken to increase both foreign and domestic tourist, the average hotel occupancy increased to 55% in 2000. Private sector and individual participation in tourism industry also might prove that the Malaysia Plan was valuable through the implementation of the concept of time sharing which provided an opportunity for both investor by investing in sharing property holiday and utilization of the time sharing holiday destination and location which at the end of the Seventh Malaysian Plan, it was 18's times of sharing companies participated in this project where it equivalent to 30,000 of members and rapidly enhancing of yearly of sale aggregate with RM88million.

To realise economic growth as well as tourism, the government supported the effort of the by private sector through the implementation of various tourism programmes by spending RM484.2 million during the Seventh Malaysian Plan. The programmes implemented included the conservation of historic venues, enhancing tourism facilities and amenities as well as increasing the number of middle cost hotels.

Currently, the promotion in West Asia is based on travel packages coupled with the high standard quality services and products. Key segments promoted in the West Asian market include leisure holidays such as beaches and islands, shopping, dining, eco-tourism and MICE (Meeting, International Conference and Exhibition) packages.

The special interest promotions are; education tourism, medical and health tourism, honeymoon, spa and 'Malaysia My Second Home'. Malaysia is among the popular destinations for health tourists from West Asia and it is fast emerging as a value for money destination with world class health and state-of-the-art medical facilities as Malaysia has over 200 international standard hospitals and clinics.

With education tourism, it is another growth area. Twinning programs with foreign universities have made it affordable for students in the West Asia region to pursue their tertiary education in Malaysia.

Finally, the Tourism Ministry's plan to promote Malaysia as a tourism hub among the Islamic states has made the country a main tourist destination for Muslim tourists. Malaysia could become as Islamic tourism hub because of religious similarities and its capability and ability to understand the needs and wants of tourists from Islamic countries. Hence, the ministry would strengthen its strategies and preparations to welcome the influx of visitors to Malaysia for the Visit Malaysia Year 2007 as well as for the Malaysia's National Day Celebrations. Inline with these, various programs such as providing tourism packages affordable to all categories of tourists would be carried out through National Day Celebration which will be celebrated throughout 2007. Visit Malaysia Year 2007 aims to attract 20.1 million foreign to Malaysia, especially from the Middle East, India, Pakistan, Russia, Europe and also from the Southeast Asian region.

The biggest contributors to the country's tourism are ASEAN nations. For instance, they constituted more than 60% of all tourist arrivals to Malaysia in 2005. On the other hand, in the year 2005 a total of 1,107,919 arrivals were registered from eastern Asia, such as Japan, South Korea, China, Hong Kong, Taiwan, and the arrivals was actually decreased 9.6% compared to 1,226,125 arrivals in 2004. This was partly due to the bird flu in Asia and the haze problem in most places in Malaysia in 2004 and 2005.

LITERATURE REVIEW

Many studies have shown the importance of tourism to trade performance and economic development. Basically, most of previous studies employed methodology based on economic theory, and cointegration analysis which has become popular in applied econometric studies. It is difficult to measure and account for all the reasons of international tourist travels which are needed to set up an exact model.

There are three specific determinant variables for tourism demands modelling, namely real per capita income of tourist generating countries, exchange rate and relative prices (Sheldon, 1993). These variables are generally thought to be significant in explaining tourism demand for various countries. But, much of the policy debate in Europe concerning tourism has focused on its possible contribution to solving the increasing unemployment problem, not least because of its potential for creating jobs for manual workers displaced from manufacturing or the primary sector.

Until the late 1980s, few comparative studies of tourism forecasting accuracy were published which examined outside sample forecasting performance. However, most of them include least squares regression models in the comparator set. Since tourism is the most important economic activity in many countries, the forecast of tourism is the key to predicting overall macroeconomic performance. Greenidge (2001) explored the utilized Structural Time Series Modelling (STM) to explain and forecast tourist arrivals to Barbados from its major generating markets. The procedure allows one to extract the maximum amount of information contained in the series on tourist arrivals while at the same time include any other information relevant to forecasting arrivals. Greenidge found that those models offered valuable insights into the stylized facts of tourism behaviour and provided reliable out-of the sample forecasts. In another study on tourism demand by Uysal and Crompton (1984), real per capita income in countries that receive many tourists, relative exchange rates, transportation costs and promotional expenses were found to be significant for international tourist arrivals to Turkey. The economic multivariate cause-effect model explains international tourism demands and tourism receipts with a high degree of accuracy.

Meanwhile, Oh (2005) investigated the causal relations between growth and economic expansion for the Korean economy by using Engel and Granger two-stage approach and a bivariate vector autoregressive (VAR) model. Two principle results emerge from the study. First, the results of a cointegration test indicate that there is no long-run equilibrium relation between the two series. Second, the outcomes of Granger-causality test imply the one-way causal relationship of economic-drive tourism growth. The hypothesis of tourism-led economic growth is not held in the Korean economy. This consequence is supported by testing the sensitivity of causality test under different lag selection along with the optimal lag.

Chan et al. (2005) models the conditional mean and conditional variance of the logarithm of the monthly tourist arrival rate from the

leading tourism source countries to Australia, namely Japan, New Zealand, United Kingdom and USA, using three multivariate static or constant conditional correlation (CCC) volatility models, specifically the symmetric CCC-MGARCH model, symmetric vector ARMA-GARCH model, and symmetric vector ARMA-AGARCH model. Monthly data from July 1975 to 2000 was used in the empirical analysis. The results suggest the presence of interdependent effects in the conditional variances between four leading countries, and asymmetric effects of shocks in two of the four countries. This is an important result as it emphasizes interdependencies between major tourism source countries, as well as the asymmetric effects of positive and negative shocks in tourism demand. The estimated CCC matrices for the three models are not substantially different from each other which confirm the robustness of the estimates to alternative specifications of the multivariate conditional variance.

The implications of tourism in the long run will always reflect on the economic growth in most countries. Lanza et al. (2003) have illumined the long run impact of specialization in tourism. It has shown that specialization in tourism may not be deleterious for economic welfare once the terms of trade are considered. Conditions for an improvement in welfare are laid out and their existence tested by econometric methods within an almost ideal demand system formulation of tourist expenditure for 13 OECD economies. The analysis used cointegration techniques and novel sequential break dating procedures evaluated where the time dimension is small. The values of the estimated parameters suggest that long run growth may not be harmed by tourism specification.

Known as the 'City of Life' and 'Asia's Most Popular Travel Destination' Hong Kong has a unique culture that combines western life style with Chinese traditions. In the year 2000,Hong Kong was ranked 14th in the World Tourism Organization's top destinations, and the growth rate of tourist arrivals in Hong Kong reached 15.3%, while the world and regional average rates of growth in the same year were 74% and 14.5% respectively. Haiyan Song et al. (2003) identified the factors which contributed to the demand for Hong Kong tourism with the aid of econometric models and also generated forecast of international tourism arrivals to Hong Kong for the period 2001-2008. The general to specific modelling approach is followed to forecast the demand for Hong Kong tourism by residents from the 16 major origin countries and the empirical results reveal that the most important factors that determine the demand for Hong Kong tourism are the costs of tourism in Hong Kong. Finally, the demand elasticity's and forecasts of tourism arrivals were obtained

from the demand model from the basic of policy formulations for the tourism industry in Hong Kong.

Seddighi and Shearing (1997) has examined the trends of tourism in North East England. In particular, the study focuses on the area of Northumbria to show the potential of tourism for economic development. This study concentrates on the long-run relationship between domestic tourism demand, and a number of economic factors affecting the demand for tourism by using the Johansen and Juselius cointegration test and multivariate cointegration analysis. Finally, an error-correction model was proposed for short-run forecasting of domestic demand for tourism in Northumbria. Mustafa Akal (2004) applied Auto Regression Moving Average Cause Effect (ARMAX) model to forecast international tourism revenue for Turkey for the post-2001 economic crisis. International tourist arrivals were seasonally dependable on earlier arrivals at lagged period one, two and four. Through the ARMAX model, the future international tourist's arrivals are forecast for the 2002-2007 period to determine possible revenues for that same period. The estimated models and their forecasts may be important for the economy of Turkey which is currently recovering from economic crisis. Once US dollar expenditure per tourist is forecasted the gap between forecasts and needs can be defined more rationally to overcome economic crises. In short, discrepancy analysis may aid marketing promotion to increase arrivals and tourist expenditures.

DATA AND VARIABLES

Data's was collected from the Immigration Department of Malaysia and Tourism Development Corporation (TDC) under the Ministry of Tourism Malaysia. The data used in this study are yearly observations and the estimation period is 1980-2007. The variables used in this study are symbolized and described as follows:

Tour : Total tourist arrivals to Malaysia
GDP : Real domestic product
CPI : Consumer price index

The variables are then transformed through the use of natural logarithm to ease interpretation of coefficient. Coefficients in log function are interpreted elasticity which is a percentage change in a dependent variable given a 1% change in an independent variable.

METHODOLOGY AND EMPIRICAL RESULTS

Unit root tests

As usual, before estimating the co-integration and VAR, it is required to examine the stationarity of the variables. In brief, stationarity means that the mean and the variance of the series are constant through time, and the auto-covariance of the series is not time varying (Gujarati, 1999). The stationarity test is important to set up the specification and estimation of the correct model. Therefore, the first step is to test the order of integration *(I)* of the variables. Integration means that past shocks remaining undiluted affects the realizations of the series forever and a series has theoretically infinite variance and a time-dependent mean. For the purpose of testing the stationarity, Augmented Dickey-Fuller (ADF) and Phillip-Perrons (PP) tests were employed in this paper. All of the series are non-stationary in levels, and were stationary in first difference with same level of lags. Results of the unit root tests are presented in Table 3:

Table 3. Unit Root Tests

Variables	ADF Test (τ)		PP Test (Z_τ)	
	Level	First Differences	Level	First Differences
Tour	-1.90(0)	-3.49(0)**	-1.71[1]	-3.49[1]**
GDP	-1.41(6)	-3.15(6)**	-2.56[0]	-5.01[0]*
CPI	-1.51(0)	-5.33(0)*	-1.64[2]	-5.33[2]*

Note: Lag length in ( ) and Newey-West value using Bartlett kernel in [ ]
Asterisks (*) and (**) denote statistically significant at 1% and 5% significance levels

Cointegration tests

The cointegration tests were examined between tourist receipts, GDP and CPI. Basically, cointegration means that the non-stationary variables are integrated in the same order with the residuals stationary. If there is cointegration between the variables, it means that there is a long-run effect that prevents the time series from drifting away from each other and there exists a force to converge into long-run equilibrium. Besides that, cointegration also can be defined as long term equilibrium or movement together between time series data set in the equation system.

Nevertheless, in the short term, these variables may scatter from one another, which is why our system may destabilize.

The results for the cointegration test are presented in Table 4 with significant level at 1% and 5% for λ_{Trace} and $\lambda_{Max-Eigen}$ value tests for lag 1. The cointegration results in Table 4 are obtained using a VAR specification where the variables and the cointegration space contain linear trends and the results do not indicates any co-integrating vectors either by using λ_{Trace} or $\lambda_{Max-Eigen}$ test at both the 5% and 1% significance levels. In order to examine the long-run causal relationship, we test for Granger-causality using block exogeneity Wald test.

Table 4. Johansen's Cointegration Tests

Null Hypotheses	Maximum Eigenvalue	λ_{Trace} [k=0,r=0]	Critical Value (5%)	Critical Value (1%)
r=0	0.54	28.23	29.68	35.65
r≤1	0.19	8.78	15.41	20.04
r≤2	0.12	3.45	3.76	6.65
Null Hypotheses	Maximum Eigenvalue	$\lambda_{Max-Eigen}$ [k=0,r=0]	Critical Value (5%)	Critical Value (1%)
r=0	0.54	19.45	20.97	25.52
r≤1	0.19	5.33	14.07	18.63
r≤2	0.12	3.45	3.76	6.65

Note: Asterisks (*) and (**) denote statistically significant at 1% and 5% significance levels

Granger-causality tests

The Granger-causality tests are conducted using a joint F-statistic for the exclusion of variable from one equation as illustrated above in a simple matrix form. The results of these tests indicate that Granger-causality is running in both directions between CPI and tourist arrivals, and between CPI and GDP in Malaysia. The results are also in line with findings by Song et al. (2003), Crouch (1992) and Sheldon (1993) who obtained similar results on their studies, especially when discussing the importance of economic-driven tourism. Table 5 clearly shows the Granger-causality directions between the specified variables:

Table 5. VAR Granger-Causality

	Tour	GDP	CPI
Tour	_	3.83	2.43
		[0.05]	[0.11]
GDP	0.16	_	0.53
	[0.68]		[0.46]
CPI	6.13**	8.32*	_
	[0.01]	[0.00]	

Note: Asterisks (*) and (**) denote statistical significance at the 1% and 5%
Figure in [ ] stands for probability value

Variance decomposition results

The variance decomposition for 1, 5, 10, 15, 20, 25 and 30 years, forecast variances for Tour, GDP and CPI are reported in Table 6. The entries in the table are percentages of return forecast variances and it can be explained by random innovations[1].

Table 6. Variance Decomposition Analysis Results

Variance Decomposition of Tour				
Period	S.E.	ΔTour	ΔGDP	ΔCPI
1	0.1402	100.000	0.00000	0.00000
5	0.6813	11.5299	84.7781	3.69190
10	2.7769	1.75668	93.5513	4.69196
15	9.5898	0.95612	94.1712	4.87259
20	32.353	0.86968	94.2287	4.90155
25	108.81	0.86007	94.2343	4.90558
30	365.82	0.85901	94.2348	4.90609
Average		9.19760		
Variance Decomposition of GDP				
Period	S.E.	ΔTour	ΔGDP	ΔCPI
1	0.4333	0.18083	99.8191	0.00000
5	1.3359	2.23059	95.3615	2.40790
10	4.7053	1.23150	94.2812	4.48722
15	16.077	0.91860	94.2324	4.84900
20	54.206	0.86708	94.2339	4.89892
25	182.30	0.85992	94.2347	4.90529
30	612.92	0.85901	94.2349	4.90606
Average			94.8114	

Variance Decomposition of CPI				
Period	S.E.	ΔTour	ΔGDP	ΔCPI
1	0.0880	19.7637	0.57725	79.6590
5	0.4930	0.68588	85.1721	14.1419
10	1.6710	0.45337	93.3473	6.19928
15	5.4749	0.76318	94.1635	5.07326
20	18.301	0.84386	94.2301	4.92598
25	61.473	0.85686	94.2347	4.90843
30	206.63	0.85863	94.2349	4.90642
Average				11.1372

Basically, the variance caused by dependent and independent variables due to the historical innovation is becoming less and less important. Overall, the variance decomposition confirms our findings regarding the contribution of GDP and CPI toward tourist arrivals to Malaysia for the period of 30 years. From the reported results in Table 6, the average 9.19% is explained by its own forecast error variances. Meanwhile, the average variance explained by other variables falls from 94.81% for GDP and 11.13% for CPI. Overall, the variance decomposition of all variables remaining decreased percentage, especially the tourist arrivals variable. The results of the variance decomposition results are not surprising because the economic indicators, such as GDP and CPI have become important factors determining tourist arrivals in most of the countries in the Asian region lately.

CONCLUDING REMARKS

This study was motivated by the need for an empirical analysis of the contribution of tourism development, policy and strategic alliances to economic growth for Malaysia. The empirical findings of this study suggest that the economic factor has become a main factor driven the Malaysia's tourism sector; and therefore policies and strategies should concentrate on those factors to increase tourist arrivals to Malaysia in the future. Furthermore, the results of this study are not consistent with Oh (2005) and Mustafa Akal (2004) who found bivariate causality running between GDP to tourist arrivals. But, in this study the causality is more dominant on the CPI, which indicates the domestic price level in Malaysia.

REFERENCES

Chan, F., Lim, C. & McAleer, M. (2005) Modeling multivariate international tourism demand and volatility. *Tourism Management*, 26, 459-471.

Crouch, G.I. (1992). Effects of income and price on international tourism. *Annals of Tourism Research*, 19, 643-664.

Greenidge, K. (2001). Forecasting tourism demand: an STM approach. *Annals of Tourism Research*, 28(1), 98-112.

Green, W. (2003). *Econometrics Analysis*. 5th Edition. New York: Prentice-Hall

Gujarati, D.N. (1999). *Essential of Econometrics*. 2nd Edition. Singapore: McGraw-Hill.

Malaysia. (2006). *Ninth Malaysia Plan, 2006-2010*. Kuala Lumpur: Pencetakan Nasional Malaysia Berhad.

Malaysia. (2001). *Eighth Malaysia Plan*, 2001-2005. Kuala Lumpur: Pencetakan Nasional Malaysia Berhad.

Mustafa Akal. (2004). Forecasting Turkey's tourism revenue by ARMAX model. *Tourism Management*, 25, 565-580.

Seddighi, H.R. & Shearing, D.F. (1997). The demand for tourism in North East England with special reference to Northumbria: an empirical analysis. *Tourism Management*, 18(8), 499-511.

Sheldon, P. J. (1993). Forecasting tourism: expenditures versus arrivals. *Journal of Travel Research*, 13, 13-20.

Song, H., Wong, K.F. & Chon, K.K. (2003). Modeling and forecasting the demand for Hong Kong tourism. *Hospitality Management*, 22, 435-451.

Oh, C. (2005). The contribution of tourism development to economic growth in the Korean economy. *Tourism Management*, 26, 39-44.

Uysal, M. & Crompton, J. L. (1984). Determinants of demand for international tourist flows to Turkey. *Tourism Management*, 5(4), 288-297.

ENDNOTES

Average value of variance decomposition is calculated for 30 year period consequently.

SUBMITTED: JULY 2007
REVISION SUBMITTED: NOVEMBER 2007
ACCEPTED: FEBRUARY 2008
REFEREED ANONYMOUSLY

Loganathan Nanthakumar (kumar@umt.edu.my) is a Lecturer at the Department of Economics, Universiti Malaysia Terengganu (UMT), Mengabang Telipot, 21030 Kuala Terengganu, Malaysia

Yahaya, Ibrahim. (ya@pkrisc.cc.ukm.my) is an Associated Professor at the School of Social, Development and Environmental Studies, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (UKM), 43600 Bangi Selangor, Malaysia

Madzli, Harun (madzli@umt.edu.my) is a Lecturer at the Department of Maritime Management, Faculty of Maritime Studies and Marine Science. Universiti Malaysia Terengganu (UMT), Mengabang Telipot, 21030 Kuala, Terengganu, Malaysia