
Major Determinants of Intra-Regional Tourism Demand for Malaysia: A Study

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Abstract: The present paper begins with a literature review focusing on the importance of tourism in Malaysia, drawing particular attention to the explanations for the popularity of intra-regional tourism and its implications. After that, a model to measure the intra-regional demand for tourism is proposed. This model has the major determinants of intra-regional tourism demand as its independent variables. The model is empirically tested and the final segment of the paper presents the results of empirical verification. Also discussed are the implications of the study: the study is especially important for practitioners since a comprehensive knowledge of intra-regional tourism demand will greatly aid in destination positioning and target marketing. Given the unique socio-political, cultural, and economic dimensions of intra-regional tourism, public policy makers should also gain benefits from this study.

Keywords: Intra-regional tourism, tourism demand, determinants, model specification and estimation, and Malaysia.

Introduction

Since the Asian financial crisis of 1997, the essential value of economic cooperation and integration in intra-regional has become the hallmark of development for the Association of Southeast Asia Nations (ASEAN) countries. According to Haruhiko Kuroda, President, Asian Development Bank, regionalism is viewed as a “partnership to shared prosperity” for the ASEAN countries. Through regionalism, Asian countries are boosting trade and investment, building financial stability, and collaborating on finding solutions to regional and global crises.

Tourist arrival figures obtained from Tourism Malaysia’s official website indicate that Malaysia’s top three inbound markets in the past ten years (1998-2007) have been Singapore, Thailand, and Indonesia, fellow members of the ASEAN. The uniqueness of Malaysia’s relationship with its top inbound markets lies in the fact that these markets are also Malaysia’s top three competitors for inbound tourism, particularly in the area of medical tourism against Singapore and Thailand (Chee, 2007). Due to the significance of

intra-regional tourism and the uniqueness of the relationship between Malaysia and its fellow ASEAN members, this paper seeks to identify major determinants of intra-regional inbound tourism in Malaysia through a set of regression models.

This paper proceeds as follows. The next section contains literature review focusing on the importance of tourism in Malaysia, drawing particular attention to the explanations for the popularity of intra-regional tourism and its implication. The literature review also includes a review of international tourism demand determinants used by tourism researchers in past research. Next, the paper describes the model specification, estimation procedures, and data sources. The last section presents the empirical results, limitations, and conclusions.

INTRA-REGIONAL TOURISM AND ITS IMPLICATIONS FOR MALAYSIA

The increasing importance of the role that tourism plays in the world economy has drawn the attention of government of countries such as Malaysia where tourism is a major industry, employer and government revenue producer. Malaysia has long been one of the world's best kept tourism secrets (WTTC, 2002). In its 2002 report, *Malaysia: The Impact of Travel and Tourism on Jobs and the Economy*, the World Tourism & Travel Council (WTTC) projected total demand for travel and tourism in Malaysia to grow to USD\$36.9 billion (Malaysian Ringgit (MYR) 158,213 million) by 2010. Travel and tourism-related employment in Malaysia is projected to grow to 1.0 million jobs—a 9.6 per cent of total employment in 2010. In Malaysia, exports make up a very important share of travel & tourism's contribution to Gross Domestic Product (GDP), with inbound visitors injecting foreign exchange directly into the economy. Of total Malaysian exports, services and merchandise, travel and tourism is expected to generate USD\$21.8 billion or MYR93, 308 million (10.0 per cent of total) in 2010.

The drive to more closely integrate Pacific Asia trade and economic development plans via regional and sub-regional cooperation blocs such as ASEAN gave a major impetus to regional travel and tourism. ASEAN cooperation in tourism was formalized in 1976 following the formation of the Sub-Committee on Tourism (SCOT) under the ASEAN Committee on Trade and Tourism. The Plan of Action for ASEAN cooperation in tourism was formulated in 1997 to (a) develop and promote ASEAN as a single and collective tourism destination with world class standards, facilities and attractions; (b) enhance cooperation in the tourism sector among member countries, involving both public and private sectors, in order to achieve facilitation of intra-ASEAN travel and free trade and investment in tourism services; and (c) provide a common forum for discussion of major issues and developments in travel and tourism ASEAN (Plan Of Action On ASEAN Cooperation In Tourism, 2003). The plan strategies include (1) marketing the ASEAN region as a single tourist destination with multi-faceted attractions and world class standards and facilities; (2) encouraging tourism investments under a more competitive regime; (3) developing a critical pool of tourism manpower; (4) promoting environmentally sustainable tourism; and (5) facilitating seamless intra-ASEAN travel.

Furthermore, in 1996, the ASEAN Framework Agreement on Visa Exemption was signed in Kuala Lumpur on July 25. The agreement states that member countries, where applicable, shall exempt citizens of any other member countries holding valid national passports from visa requirement for a period of stay of up to 14 (fourteen) days from the date of entry, provided that such stay shall not be used for purposes other than visit.

ASEAN is already recognized as one of the world's major tourism destinations. The tourism sector is a major revenue-earner for ASEAN countries, generating 27.7 billion dollars in tourism receipts in 2002, excluding Brunei, or 4.8 percent of ASEAN's gross domestic product. Malaysia, one of ten ASEAN members, enjoys heavy intra-ASEAN inbound tourism. By 2004, the World Tourism Organization (WTO) recognized Malaysia as one of thirty emerging world destinations as its international arrivals increased significantly to 15.7 million. Between 2001 and 2005, inbound arrivals for Malaysia were 79 percent dominated by tourists from the Southeast Asia region (ASEAN Statistical Pocketbook, 2006). In comparison, Malaysia's fellow ASEAN member and neighboring country, Singapore enjoyed a share of 39 percent intra-ASEAN arrivals. Another top Malaysia inbound market and neighbor, Thailand, enjoyed a 22 percent share of intra-ASEAN visitors. Indonesia's share was around 41 percent. The overall rate of growth for intra-ASEAN visitors for the ASEAN countries is about 30 percent.

According to the 2006 ASEAN Statistical Pocketbook, between 2001 and 2005, inflation rate for Malaysia averaged 1.76 percent. The average inflation rate for the same period for Singapore was 0.6 percent, and 2.26 percent for Thailand. Indonesia's average inflation rate for the same period was 9.36 percent (ASEAN Statistical Pocketbook, 2006).

A strong currency relative to competitors can create difficulties for national tourism industries (Prideaux, 1999). Developing a strategy for countries experiencing reduced competitiveness as a consequence of unfavorable currency exchange rates is difficult. Unable to compete on price, countries facing this problem may need to accept a fall in arrivals but attempt to offset reduced numbers by increasing yield. After obtaining independence in 1957, the national currency of Malaysia, the ringgit (MYR) was pegged to the United Kingdom's Pound Sterling. Following the dismantlement of the Pound Sterling in 1972, the ringgit was pegged to the US dollar. The ringgit was allowed to float in June 1973, and again pegged to a basket of major currencies in September 1975. From thereon until mid 1980s, the exchange rate policy of Bank Negara Malaysia (BNM) had focused on the stabilization of the exchange rate against the Singapore dollar. After several speculative attacks, the ringgit was allowed to float more against both the Singapore dollar and the US dollar in the end of 1984. The exchange rate system since then can be classified into a managed floating system.

The average foreign exchange rate (end period) for Malaysia during the 2001-2005 period was MYR3.796 to USD\$1. The average foreign exchange rate (end period) for Singapore for the same time period was SD1.72 to USD\$1. Thailand's average foreign exchange rate (end period) was THB41.44 to USD\$1, and Indonesia's average foreign exchange rate (end period) was IDR9385 to USD\$1 (ASEAN Statistical Pocketbook, 2006).

The Tourism Malaysia's PowerPoint presentation on international tourist arrivals and receipt, tourism in the region illustrated that the Malaysia's tourism industry was hit hard by world events such as the 9/11 bombing in 2001, the Bali bombing in 2002, the Severe Acute Respiratory Syndrome (SARS) epidemic and the Iraq War in 2003, and the earthquake and tsunami of December 26, 2004. According to the ASEAN secretariat, the tourism industry experienced its worst year in 2003 when tourist arrivals to the 10 countries of the ASEAN fell by 14.7 percent, from nearly 43.9 million in 2002 to 37.5 million people in 2003 (ASEAN Tourism, 2004). In the wake of the 2004 earthquake and tsunami, the ASEAN tourism ministers met on January 24, 2005 to reaffirm their commitment to strengthen collaboration, and to enhance air linkages, transportation infrastructure, and the safety and security of travelers to restore confidence in travel to the region (ASEAN Langkawi Declaration, 2005).

Determinants of Tourism Demand

The general international tourism demand model typically consider factors such as income of origin, transportation cost between destination and origin, relative prices, currency exchange rate (measured as units of destination's currency per unit of origin's currency), and qualitative factors in destination (Crouch, 1994). Demand theory also implies that demand for international tourism may be influenced by promotional expenditures and other special factors such as political disturbances, economic recessions, and special events such as the Olympics or epidemic outbreaks.

The income variable has been identified as the important determinant of international tourism demand (Crouch 1994). Demand theory suggests that demand for international tourism is a positive function of income. The higher the per capita income, the more people are likely to travel (Artus, 1972). The high income elasticity found in past research indicates that international tourism is regarded as a luxury product (Martin and Witt 1989). In this study, the income variable is represented by real per capita income in the demand models.

Barry and O'Hagan (1972) suggest three aspects of price: (1) the costs of living at the destination; (2) exchange rates; and (3) transportation costs. According to Loeb (1982), tourists would be responsive to changes in prices in the destination country and the effect of such relative prices would be significant as a determinant of demand for international tourism. In their research, Witt and Witt (1990) find that the greater cost of living in the destination country relative to the origin country, the lower the tourism demand, and vice-versa. In other words, the demand for travel is an inverse function of relative prices. The relative prices variable has been statistically significant (Uysal and Crompton 1984). The consumer price index (CPI) has been most frequently used as a proxy for tourism prices (Crouch, 1992). In this study, the variable of relative prices is represented by CPI between origin and destination country.

Tourism demand researchers argue that tourists respond to exchange rate movements much more than to changes in relative inflation rates when they make decisions on the travel destination because consumers are more aware of exchange rates than destination

costs of living (Song & Turner, 2006). Therefore, the depreciation of a destination's currency *vis-a-vis* the origin country's currency would lead to an increase in international tourism demand for the destination (Lee, 1996). Inclusion of this variable produced significant results in some studies (Artus 1972; Uysal & Crompton, 1984), whereas it yielded unsatisfactory results in other studies (Loeb 1982). It is, therefore, unclear whether exchange rate is a contributing explanatory variable for international tourism demand. The exchange rate variable is included in this study to determine its significance in intra-regional tourism.

An increase in transportation costs is likely to decrease the demand for international tourism, and vice-versa. However, researchers frequently exclude the transportation variable (Witt & Martin, 1987) because they either (1) yield insignificant results (Stronge & Redman 1982) or (2) encounter difficulties measuring this variable because it varies depending on the mode (airline, surface, etc.), season, and class of transportation (Loeb, 1982). This study also excludes this variable in estimating demand for international tourism.

Tourism studies included dummy variables into demand models in order to explain the effect of special events on demand (Crouch, 1994). The dummy variables included in this study to represent the effects of: (1) September 11, 2001 bombing; (2) the Bali bombing in 2002; (3) Severe acute respiratory syndrome (SARS) outbreak in 2003; (4) Iraq War in 2003; and (5) Tsunami in 2004.

Model Specification and Estimation Procedures

The regression model is used to establish the relationship between a dependent and several independent variables and then predict the values of the dependent variable. As per the above review of related literature, this study identifies income, relative prices, exchange rates, and dummy variables as the important determinants of intra-regional tourism demand for Malaysia (Lee, 1996). Previous studies also show that double logarithmic formation (double-log) fits the data better than do linear forms in terms of expected signs and statistical significance (Artus, 1972; Quayson & Var, 1982; Witt & Martin, 1987; Lee, 1996). However, this study will use linear regression to analyze the data due to the author's limited research experience. Due to limited data, dummy variables for 9/11 and Iraq war are excluded from the study. The Bali bombing, SARS, and tsunami are included as they are deemed to have a more immediate impact to tourism in the region since these special events occurred in the countries of origin. The marketing variable included in Lee's (1996) study is excluded from this study due to unavailable data at the time of this study.

The specified model posits that inbound tourist arrivals made by each of the tourist-generating countries is a function of real per capita income, relative prices, real exchange rate, and dummy variables. The equation is estimated using ordinary least squares (OLS) for the tourist-generating countries of Singapore, Thailand, and Indonesia.

$$\text{InARR}_{j\text{MY}} = \beta_0 + \beta_1 \text{RYPC}_i + \beta_2 \text{RPRC} + \beta_3 \text{REXC} + \text{Y1DM1} + \text{Y2DM2} + \text{Y3DM3} \text{ where:}$$

InARR_jMY= inbound tourist arrivals to Malaysia

_j = the destination country

_i = the origin country or tourist-generating country

RYPC = real per capita income in the origin country

RPRC = relative prices, measured as the ratio of Consumer Price Index (CPI)_j to CPI_i

REXC = real exchange rate, measured as the units of currency_j per unit of currency_i and then multiplying by the ratio of CPI_j to CPI_i

DM₁ = dummy variable representing the effect of Bali bombing, 2002. 1 if 2002, 0 otherwise

DM₂ = dummy variable representing the effect of SARS in 2003. 1 if 2003, 0 otherwise

DM₃ = dummy variable representing the effect of the Tsunami in 2004. 1 if 2004, 0 otherwise

Coefficients to be estimated:

B₀, β₁, β₂, β₃, Y₁, Y₂, Y₃

The hypothesis is β₁>0 (+), β₂<0 (-), β₃>0 (+), Y₁<0 (-), Y₂<0 (-), Y₃<0 (-)

DATA SOURCES

The data used in this study cover ten annual time series data for the period 1988-2007. Data on tourists' arrivals were obtained from the *Tourism Malaysia* official website. Per capita income, consumer price indices, gross national product, exchange rates, and population were obtained from the United States Department of Agriculture's (USDA) Economic Research Service's International Macroeconomic Data Set. The data set is compiled from sources such as the International Monetary Fund, Census Bureau of the U.S. Department of Commerce, and the World Bank World Development Indicators.

Empirical Results

The tourist arrivals figures are shown in Table 1 and the empirical results are shown in Table 2. The data is analyzed with SPSS software. Consumer price indices and exchange rates are adjusted to reflect real CPI and real exchange rate. Three separate regression models were generated—Singapore, Thailand, and Indonesia. The model explains 86 percent of variation in the dependent variable for Singapore, 91 percent for Thailand, and 79 percent for Indonesia.

Table 1. Intra-Regional Tourist Arrivals to Malaysia by Major Markets (1998-2007)

Country of Origin Year	Singapore	Thailand	Indonesia
1998	3007666	454789	157391
1999	4900084	498578	307373
2000	5420200	940215	545051
2001	6951594	1018797	777449

2002	7547761	1166937	769128
2003	5922306	1152296	621651
2004	9520306	1518452	789925
2005	9634506	1900839	962957
2006	9656251	1891921	1217024
2007	10492692	1625698	1804535
Source: <i>Tourism Malaysia</i> official website. http://www.tourism.gov.my/			

Income Variable

Real per capita income is used to represent the income variable. For every dollar increase in real per capita income, tourist arrivals from Singapore increase by 1363 tourists, 1859 visitors from Thailand, and 4044 visitors from Indonesia. The income variable is a significant (.065) determinant for inbound tourism from Singapore, a major determinant for tourist arrivals from Thailand (.000), and is less significant (.155) as a determinant for inbound tourism from Indonesia.

Relative Prices Variable

As expected, the results show an inverse function between demand for travel and real consumer price index, an indicator of relative prices. However, the estimated coefficients of relative prices were found statistically insignificant for Thailand (.395), Singapore (.379) Indonesia (.657). This means real consumer price index is not an important determinant for inbound tourism to Malaysia. This finding is inconsistent with previous research results which found relative prices variable a major determinant.

Exchange Rate Variable

The estimated coefficients of exchange rates have the expected positive signs for all three countries. The coefficients for Singapore (.074) and Thailand (.043) were significant but not for Indonesia (.724). The exchange rate variable appears to be an important variable in influencing inbound tourism to Malaysia from Singapore and Thailand, but not an important factor for determining inbound tourism from Indonesia.

Dummy Variables

The dummy variables of Bali bombing, SARS, and tsunami were found insignificant, with the expected negative signs in Thailand and Indonesia. In Singapore, only SARS was found to be negative. This finding is consistent with previous studies which omitted the dummy variables because inclusion of these variables did not improve regression models.

TABLE 2. Regression Results of Determinants of Intra-Regional Tourist Arrivals in Malaysia

Origin Count	Coefficients Constant	RYPC	RPRC	REXC	YM ₁ DM ₁	YM ₂ DM ₂	YM ₃ DM ₃	Adjusted R Squared
Singapore	-15456295	1363**	-34140112	57795982**	395904	-1229550	2368449	.862
Thailand	-523052	1859**	-5075670	253694**	-23182	-37823	328332	.942
Indonesia	-2244684	4044*	-822166	158	-55412	-202889	-34615	.797
*, **, *** indicate significance at the 80%, 90% and 95% respectively								

Conclusions and Implications

This objective of this study was to identify the major determinants of intra-regional inbound tourism for Malaysia by constructing regression models for Malaysia's top-three inbound markets that are also the country's top competitors. The income variable results concur with demand theory and the hypothesis that intra-regional demand for tourism is a positive function of income. The higher the per capita income, the more people are likely to travel). This implies that per capita income is a good predictor for tourism agencies to track for the inbound tourism potential of a country of origin in the region.

Previous studies find the variable of relative prices to be generally significant even though the results were mixed; with some studies showing significance but not others. It is, therefore, unclear whether exchange rate is a contributing explanatory variable for intra-regional tourism demand. Further research with a larger data set is recommended to see if the results for this study will change and help clarify the significance of the exchange rate variable. The determination of this variable as significant or insignificant to inbound tourism is critical to a country such as Malaysia since developing a strategy as a consequence of unfavourable currency exchange rates is difficult. Unable to compete on price, a tourism-focused country such as Malaysia may need to develop marketing strategies to offset reduced numbers by increasing yield either through the development of new products for existing markets and/or development of new markets. Such efforts would not be worthwhile unless the role of exchange rate as a major determinant of intra-regional inbound tourism can be determined.

Although empirical research results indicate that regional special events such as the Bali bombing, SARS, and the tsunami were not significant—a finding that is consistent with previous research, the actual data according to the ASEAN secretariat, shows the tourism industry experienced its worst years when these special events occurred. It is also commonsensical to relate decreased tourism arrivals with these special events especially when they occurred within the countries of origin, e.g., Bali bombing in

Indonesia, and the tsunami in both Thailand and Indonesia. Perhaps other significant determinants that should be included in this study are not because they are not factored in previous inbound tourism studies. Therefore, the limitations and mixed results of this study should be impetus for a more in-depth study using a more comprehensive data set. Without a good understanding the major determinants of inbound tourism, proper actions cannot be taken to optimize inbound tourism opportunities or change governmental policies that may influence and affect the increase or decrease of inbound tourism to Malaysia.

It is to be admitted that this study has limitations. One of the key limitations lies in data availability within the time constrain given to complete the paper. Even though the macroeconomic data was available from 1970 to 2007, the data on tourists' arrival and annual receipts were only available for the period reviewed in this study (1987-2007). Despite these limitations, the present researchers believe that they have been able to highlight some of the important determinants of intra-regional tourism demand for Malaysia.

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