Modelling a Tourism Demand in Vietnam

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ABSTRACT

The Vietnamese tourism sector is well known for its unique culture and natural resources, and has always been one of the important engines of growth for its economy. This paper aims to identify the macroeconomic determinants of tourism demand in Vietnam through the application of a gravity model pioneered by Tinbergen (1962) with some modifications. The independent variables are destination country income, origin country income, tourism price and travel cost. All independent variables are found to be significant and emerge as the important macroeconomic determinants of Vietnamese tourism demand for the period from 2011 to 2017. Specifically, destination country income, origin country income and tourism price are found to have a positive relationship with tourism demand, while travel cost has adversely affected tourism demand in Vietnam.

JEL Classification: X23, Z30, Z32

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INTRODUCTION

Following a series of political and economic reforms in the 1980s, the tourism sector in Vietnam opened up for foreign direct investments. This subsequently allowed tourists worldwide to discover Vietnam, which in turn boosted international tourist arrivals into the nation (Suntikul et al., 2008). The Visit Vietnam Year was launched in 1990 with the aim to stimulate the tourism sector, but this campaign was unsuccessful because the country lacked sufficient tourism infrastructure and amenities. This forced the Vietnam government to improve the accommodation sector by renouncing its monopoly as well as improving the foreign investment climate (Suntikul et al., 2008).

A collaboration between the United Nations Development Plan and United Nations World Tourism Organization took place in 1991 and a tourism development master plan for Vietnam was introduced. This master plan had two sets of objectives; one set was designed for the short term (1991-1995) while the other was for the long term (1996-2000). In the initial stage of the master plan, the recommendations included: reorganisation of the tourism organisation structure, definition and planning of priority tourist regions, building of an additional 2,500 hotel rooms, and upgrading of 4,800 current hotel rooms.

In the second stage, the country planned to strengthen tourist market activities, build 8,200 hotel rooms to further increase capacity, privatise tourist businesses, and improve transportation facilities. The United States and Vietnam signed an important trade agreement in 2000 that led to the historic visit of President Bill Clinton to the nation. This event inspired Americans to visit Vietnam and concurrently strengthened Vietnam's position in the global economy. Eventually, this caused a breakthrough in the nation's tourism sector (Doan, 2002). In addition, domestic tourism demand was also boosted when the five-day work week was introduced in 1999.

Moreover, Vietnam hosted the ASEAN summit in 2004; in 2005 it introduced its National Tourism Promotion programme with the slogan "Vietnam – The Hidden Charm" for the period 2005-2010. In 2011, the Minister of Culture, Sports and Tourism launched the "Vietnam – Timeless Charm" campaign for the period 2012-2015, building upon the success of the previous slogan. All these efforts have significantly increased the number of tourists visiting Vietnam.
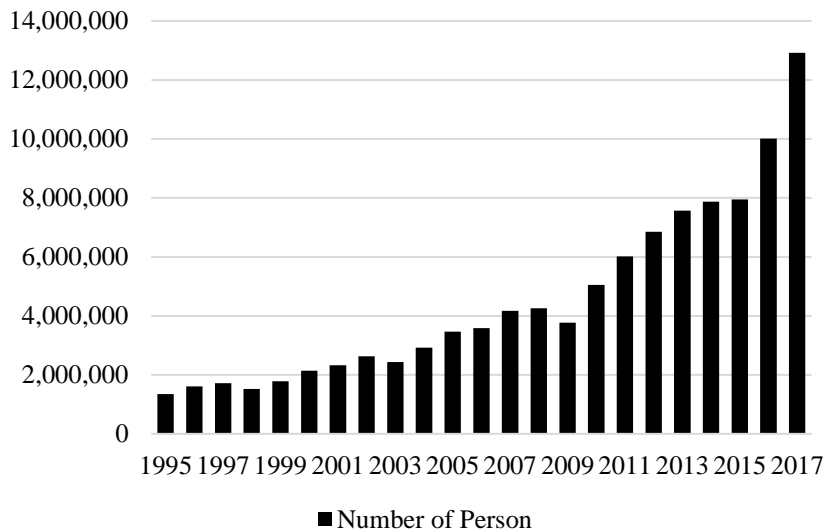
Source: Vietnam National Administration of Tourism (2017)[1]
Figure 1: International Tourist Arrival into Vietnam, 1995-2017

Figure 1 illustrates international tourist arrivals into Vietnam from 1995 to 2017. Generally, international tourist arrivals have showed an improving pattern throughout the period observed. Nevertheless, some declines in tourist arrivals are observed in 1998, 2003, and 2009. These declines were attributable to the negative impacts of the Asian financial crisis, SARS outbreak, and the global financial crisis. Despite the occurrence of these unfavourable events, international tourist arrivals into Vietnam have managed to recover strongly after each plunge, especially after the most recent global financial crisis. A benchmark was achieved in 2016 where the number of international tourist arrivals into Vietnam was recorded at more than 10 million for the first time.

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[1] The international tourist arrival statistics are compiled from http://vietnamtourism.gov.vn/english.

Table 1 shows Vietnamese tourism total contribution to its GDP and employment for 1995, 2000, 2005, 2010, 2015 and 2017. Overall, the tourism sector's contribution in GDP increased for the years recorded—except for 2010 and 2015. Despite an increase in monetary value, the percentage contribution to GDP decreased to 9.95 percent and 9.21 percent for 2010 and 2015, respectively. In 2017, the percentage contribution of Vietnamese tourism to national GDP increased to 9.35 percent, demonstrating a recovery from 2015.

Meanwhile, in terms of contribution to national employment, Vietnamese tourism generated a total employment of 2,536,860 jobs in 1995 to 4,060,880 jobs in 2017. The total employment numbers generated were the highest in 2010 with 4,446,040 jobs (9.06 percent) but dropped to 3,941,850 jobs (7.45 percent) in 2015. However, in 2017, the total employment generated increased to 4,060,880 jobs (7.57 percent).

From Figure 1 and Table 1, it is noticeable that Vietnam has relied heavily on its tourism sector as one of the focal engines of growth in its economic development. As one of the countries in the region that has the advantage of an authentic natural environment and unique culture, the Vietnamese tourism sector has generated enormous foreign exchange earnings as well as employment opportunities for its economy. As such, it is highly believed that the tourism sector of Vietnam has the potential to continue growing in the near future.

Table 1 Total Contribution of Tourism Sector to GDP and Employment for Selected Years

| Year | Tourism Sector Total Contribution | | | |
| | GDP | | Employment | |
	USD Million	%	Person ('000)	%
1995	4,617.51	8.57	2,536.86	7.52
2000	7,410.73	9.83	3,197.62	8.62
2005	11,492.40	10.71	4,236.23	9.90
2010	14,503.90	9.95	4,446.04	9.06
2015	17,904.00	9.21	3,941.85	7.45
2017	20,605.60	9.35	4,060.88	7.57

Source: WTTC (2018)[2]

The tourism sector is vulnerable to external shocks such as natural disasters, terrorism attacks and disease outbreaks. These events weaken the performance of the tourism sector when tourists delay or cancel their trips due to safety concerns. Therefore, this study aims to identify determinants of Vietnam tourism demand. The benefits of this study are three-fold. First of all, the outcome of this study will help the Vietnamese government determine ways to react to adverse situations such economic crisis or downturn. Identification of tourism demand determinants will aid in the designation of tourism policy to attract tourist inflow to Vietnam.

Secondly, by identifying the determinants for tourism demand, the Vietnamese government is able to sustain the performance of the tourism sector. Lastly, upon identifying the factors affecting its tourism demand, the Vietnamese government will be able to allocate and utilise resources effectively and efficiently in expanding the tourism sector. This expansion would in turn generate momentum to improve the Vietnamese economy as a whole through the tourism sector's multiplier effect. Moreover, as the tourism sector is increasingly a green industry, Vietnam has resources readily available to be developed in support of Vietnam's economy.

REVIEW OF LITERATURE

The gravity model, which is originally renowned for its application in the studies of international migration and international trade, has also been applied to studies of international tourism demand in a number of cases. Among others, Keum (2010), Eryigit et al. (2010), Ahmad Kosnan et al. (2013), Lorde et al. (2016), and Yazdi and Khanalizadeh (2017) estimated tourism demand models in their studies using the gravity model approach. Tinbergen (1962) proposed a basic gravity model which stated that the trade flow is explained by destination economic size (income level), origin country economic size (income level) and distance between destination and origin countries.

The economic sizes of both destination and origin countries are often measured using their gross domestic product or population. Both economic size of destination and origin countries are expected to positively influence the trade flow, while distance is expected to have a negative relationship with trade flow. For tourism demand studies

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[2] The total contribution of tourism sector to GDP and employment for selected years are compiled from https://www.wttc.org/datagateway/.

adopting gravity model approach, similar results are discovered such as that suggested by Tinbergen (1962). Some examples of these studies are Khadaroo and Seetanah (2008), Keum (2010), Ahmad Kosnan et al. (2013), Lorde et al. (2016), and Dogru et al. (2017).

In terms of measuring tourism demand, Li et al. (2005), Song and Li (2008), and Song et al. (2012) through their literature survey revealed that tourist arrival is the most popular measurement. For example, Dritsakis (2004), Garin-Munoz (2007), Ouerfelli (2008), Kusni et al. (2013), Puah et al. (2014) and Tanjung et al. (2017) utilised this measurement in their studies. Other possible measurements of tourism demand that are utilised in creating a tourism demand model include tourist expenditure and length of stay. Among others, the studies done by Divisekera (2003), Botti et al. (2007) and Brida et al. (2008) used tourist expenditure as the tourism demand variable; Garin-Munoz (2007), Garin-Munoz (2009), Yang et al. (2010), and Falk (2010) measured tourism demand using the length of stay in their studies.

Meanwhile, in order to capture and understand the dynamic adjustment of tourism demand, many authors have included the lagged dependent variable. The justification for including a lagged dependent variable is that the spread of information regarding a tourism destination happens when the tourists share their experiences with their friends and families after returning from a trip. Such spread of information will reduce the uncertainty with regard to that particular tourism destination; subsequently, potential visitors are now more inclined to visit that particular tourism destination. This spread of information is known as word-of-mouth effect.

Moreover, when tourists travel to a tourism destination that they have visited before, these tourists will have less uncertainty with regard to that particular tourism destination as compared to visiting a tourism destination that they have not visited before. This familiarity with a tourism destination will encourage tourists to revisit that particular tourism destination. Therefore, a lagged dependant variable is expected to have a positive relationship with tourism demand in which word-of-mouth effect will encourage more visitors to visit a tourism destination. Among the researchers who have included this variable in their studies are Garin-Munoz and Montero-Martin (2007), Kuo et al. (2008), and Habibi et al. (2009).

According to Botti et al. (2007), consumer demand function is associated with income and price. Thus, tourism demand also depends on the income of tourists and tourism prices at the tourism destination. Similarly, Kadir et al. (2013) also documented that income and price type factors play significant roles in affecting international tourism demand. As such, Botti et al. (2007) has assessed the tourism demand model in France and discovered that income plays a significant role in affecting the decisions of tourists visiting France. Such relationship is also found in the studies of Garin-Munoz (2007), Brida et al. (2008), Mohamed Ali Ibrahim (2011), Thien et al. (2015), and Puah et al. (2018), to name a few. Nevertheless, Dritsakis and Gialitaki (2001), and Habibi et al. (2009) discovered that in the cases of the Epirus region of Greece and Malaysia, tourist income level does not influence tourism demand for both countries.

Meanwhile, there are two widely adopted approaches used by researchers in computing a tourism price variable. The first approach attempts to derive tourism price by taking the price ratio (the cost of living of tourist in tourism destination relative to the cost of living in tourist origin country) adjusted by the exchange rate of these two countries. Specifically, the tourism price variable is computed using the following formula:

$$TP = \frac{CPI_{destination}}{CPI_{origin} * ER_{destination/origin}} \tag{1}$$

Where TP is tourism price, CPI is consumer price level and ER is exchange rate. Such computation has been utilised in the studies of Garin-Munoz (2006), Habibi and Abdul Rahim (2009), and Leitao (2010), among others. At the same time, another computation of tourism price is to use the ratio of price level in the tourism destination and tourist origin country. This ratio does not take into account the adjustment of exchange rate between tourism destination and tourist origin country. Exchange rate in this case is utilised as one of the explanatory variables. For example, Mohd Salleh et al. (2007), Mohd Salleh et al. (2008), Massidda and Etzo (2012) and Rodriguez et al. (2012) used this measurement of tourism price in their studies. Although there are two ways of computing tourism price variable, the outcome of both measurements has consistently proved that a negative relationship is expected between the tourist demand and tourism price (Garin-Munoz, 2006; Mohd Salleh et al., 2007; Habibi and Abdul Rahim, 2009; Ahmad Kosnan et al., 2013). An increase in tourism price, ceteris paribus, will result in a decline in tourism demand.

Exchange rate can be used as a component embedded in the computation of tourism price or can be included as an independent variable by itself in the tourism demand model. The former is reflected by the examples given previously, in which exchange rate is embedded in the computation of tourism price. Nonetheless, Aguilo et al. (2005) resorted to the latter approach in which exchange rate was included as an independent variable in their tourism demand model. They discovered that the inclusion of exchange rate and tourism price together in tourism demand model will cause a multicollinearity problem if exchange rate has already been used as one of the components in the computation of tourism price.

Besides, Mohd Salleh et al. (2007), Mohd Salleh et al. (2008), Chaiboonsri et al. (2010), Yang et al. (2010) and Eita et al. (2011) also included exchange rate as an independent variable in their tourism demand model and their findings suggest that exchange rate has a positive relationship with tourism demand. This positive relationship can be explained by the appreciation or depreciation of exchange rate (tourist currency) in which appreciation (depreciation) of tourist currency will encourage (discourage) tourists to travel to a tourism destination.

Being a part of the total tourist cost, travel cost has also received attention in tourism demand research. For example, Dritsakis (2004) examined the role of travel cost in determining the tourist inflows of German and British visitors to Greece. Particularly, the author used the average economy-class airfare prices of different airlines from origin countries to Greece. Dritsakis (2004) discovered a negative relationship between travel cost and tourism demand in which an increase in travel cost will discourage German and British tourists from visiting Greece. However, Mohd Salleh et al. (2007) and Mohd Salleh et al. (2008) argued that difficulties exist in determining the exact flight that tourists boarded and hence the exact airfare.

Therefore, Mohd Salleh et al. (2007) and Mohd Salleh et al. (2008) suggested using the crude oil price as a proxy for travel cost. This approach is also being adopted in the studies of Halicioglu (2004), Garin-Munoz (2007), and Habibi and Abdul Rahim (2009). Nonetheless, the findings of Halicioglu (2004), Garin-Munoz (2007), Mohd Salleh et al. (2007), Mohd Salleh et al. (2008), and Habibi and Abdul Rahim (2009) supported the finding of Dritsakis (2004) in which a negative and significant relationship was observed for the tourism demand model for Turkey, Spain, and Malaysia, respectively.

In addition, tourism demand is affected by a one-off or special event, and many studies have utilised a dummy variable to represent such event. One-off or special events can bring either positive or negative impact on tourism demand, depending on the nature of the event. Events such as economic crisis, disease outbreak and terrorist attacks will cause negative impacts on tourism demand, while events like holiday and tourism promotion campaigns are expected to bring a positive impact to tourism demand.

For example, the studies done by Mohd Salleh et al. (2007), Habibi et al. (2009) and Kadir et al. (2013) included a dummy variable to represent the Asian financial crisis of 1997-1998 in their tourism demand models. Apart from financial crises, Tang and Wong (2009), Yang et al. (2010), and Kusni et al. (2013) examined the impact of the SARS outbreak on tourism demand in Cambodia, China and Malaysia, respectively. On the other hand, Ooi et al. (2013), Samitas et al. (2018), and Corbet et al. (2019) studied the effect of terrorism on tourism demand in Malaysia, Greece and selected European countries. Consistently, these studies have proven that these events had an adverse impact on the tourism sector.

The dummy variable, apart from being used to represent events that may negatively affect tourism demand, is also utilised to capture the effect of events that may exert a positive influence on tourism demand, such as holiday and tourism promotion campaigns. For instance, Falk (2010) took into account the effect of the Easter holiday on Austria tourism while the study done by Kadir et al. (2013) and Habibi (2017) considered the Visit Malaysia Year effect in Malaysia.

Specifically, Falk (2010) discovered that the Easter holiday had a positive influence on tourism demand in Austria while Kadir et al. (2013) did not found evidence that Visit Malaysia Year has significantly impacted tourism demand in Malaysia. Yet, in another study conducted by Athanasopoulos and Hyndman (2008), they investigated the effect of the Sydney Olympics on different types of visitors and found that even though the Sydney Olympics successfully attracted more visitors to Australia, some business trips were postponed until after the Olympics.

METHODOLOGY

After undergoing extensive literature review, a number of explanatory variables are selected based on previous studies. These explanatory variables are destination country (Vietnam) income, origin countries income, tourism price

and distance. The destination country income is included to verify the impact of economy performance on tourism demand; origin country income is added to determine wealth effect; tourism price and travel cost will capture the effects of cost on travelling decision.

In its basic form, Tinbergen (1962) gravity model is presented as follow:

$$Ex = F(DY, OY, Dist) \tag{2}$$

where Ex represents export of destination country to origin country, DY is the destination country income level, OY proxies the income level of origin country, and Dist represents the geographical distance between destination and origin countries.

Therefore, adopting Tinbergen (1962) gravity model with some modification in order to examine tourism demand for Vietnam, the following function will be used:

$$TA = F(VY, OY, TP, TC) \tag{3}$$

where TA represents tourist arrival from the top ten origin countries to Vietnam, VY is the destination country income level, OY proxies the income level of origin country, TP is the tourism price, and TC represents the travel cost. The dependent variable is measured by the number of tourist arrivals from the respective top ten origin countries into Vietnam, while destination and origin countries' income levels are computed by deflating the gross domestic product of these countries with their respective consumer price index.

Furthermore, tourism price is derived by dividing the consumer price index of Vietnam with the consumer price index of their respective top ten origin countries and adjusted with the exchange rate between Vietnam and the top ten countries of origin. The computation of tourism price is shown as follows:

$$TP = \frac{CPI_{Vietnam}}{CPI_{origin} * ER_{Vietnam/origin}} \tag{4}$$

Meanwhile, as suggested in the study of Lorde et al. (2016), travel cost is computed by multiplying the geographical distance (calculated using the great circle formula which uses the latitudes and longitudes of most important cities/agglomerations in terms of population) with real crude oil price. This computation is able to overcome the drawback of using only geographical distance, which is time-invariant.

$$LTA_{ijt} = \beta_0 + \beta_1 LVY_{it} + \beta_2 LOY_{jt} + \beta_3 LTP_{jt} + \beta_4 LTC_{ijt} + \mu_{ijt} \tag{5}$$

Equation (4) is the empirical model specified to estimate tourism demand model for Vietnam from 2011 to 2017 with its top ten origin countries. Dependant variable LTAijt represents tourist arrival into Vietnam, i from origin country, j at time, t. For the explanatory variables LVYit and LOYjt, proxy destination and origin countries' income level, LTPjt measures the tourism price as the cost of living in the destination country for tourists from the origin country, LTCijt is the travel cost from origin country to destination country and lastly, μijt is an error term. The static linear panel data models will be adopted to treat the data.

The international tourist arrival numbers are compiled from the Vietnam National Administration of Tourism and the data for destination and origin countries' income level and tourism price are extracted from International Financial Statistics (published by International Monetary Fund). Data for travel cost (represented by crude oil price) are compiled from Global Economic Monitor (published by World Bank) and data for distance are extracted from Centre D'Etudes Prospectives EtD'Information Internationales (CEPII). This study covers a period from 2011 to 2017 and the top ten origin countries are China, Korea, Japan, Taiwan, United States, Russia, Malaysia, Australia, Thailand, and United Kingdom. Table 2 shows the number and percentage of tourist arrival for each origin country in 2017. In total, these ten countries have a share of 80.96 percent of total tourist arrival to Vietnam in 2017.

Table 2 Top Ten Tourist Origin Countries Visiting Vietnam, 2017

Ranking	Origin Countries	Person	*Percent*
1	China	4,008,253	*31.02*
2	Korea	2,415,245	*18.69*
3	Japan	798,119	*6.18*
4	Taiwan	616,232	*4.77*
5	United States	614,117	*4.75*
6	Russia	574,164	*4.44*
7	Malaysia	480,456	*3.72*
8	Australia	370,438	*2.87*
9	Thailand	301,587	*2.33*
10	United Kingdom	283,537	*2.19*
	Subtotal	10,459,148	*80.96*
	Total	12,922,151	*100*

Source: Vietnam National Administration of Tourism (2017)

RESULT AND DISCUSSION

Table 3 shows the results of the static linear panel data models. Based on the F test (which tests the poolability of the data), the null hypothesis of homogenous intercept is rejected for the Vietnam tourism demand model at 1 percent significance level. F test statistic is calculated at 28.80, implying that the cross-sections do not share a common intercept. Furthermore, the comparison between Pooled OLS and Random Effects (RE) models are conducted using Breusch-Pagan Langrange multiplier test (Breusch and Pagan, 1980) and the result shows that the null hypothesis of common slope and intercept are rejected at 1 percent significance level, which further confirms the result of the F test.

Table 3 Results of Static Linear Panel Data Models for Vietnam Dependent Variable: LTA

Variable	Pooled OLS	Random Effects	Fixed Effects	OLS (Panel Corrected Standard Errors)
Constant	-8.56 (-1.50)	-19.37*** (-5.03)	-28.02*** (-5.15)	-8.56** (-2.18)
LVY	1.04 (1.34)	2.50*** (5.30)	3.71*** (5.74)	1.04* (1.92)
LOY	0.45*** (9.21)	0.20* (1.85)	-0.48* (-1.78)	0.45*** (31.81)
LTP	0.09*** (3.57)	0.12 (1.54)	-0.72* (-1.95)	0.09*** (5.88)
LDIST	-0.43*** (-4.98)	-0.05 (-0.61)	0.01 (0.17)	-0.43*** (-9.00)
F Test (*p*-value)	28.80*** (0.00)			
Breusch-Pagan LM Test (*p*-value)	128.77*** (0.00)		-	-
Hausman Test (*p*-value)	-	8.98* (0.06)	-	
Heteroskedasticity (*p*-value)	-	-	632.82*** (0.00)	-
Serial Correlation (*p*-value)	-	-	20.37*** (0.00)	-
Multicollinearity	-	-	1.56	-

Notes: Asterisk ***,** and * represent 1, 5 and 10 percent of significance level, respectively. The figures in brackets are t-statistics.
Source: Authors' estimation

Subsequently, Fixed Effects (FE) model is estimated and Hausman test is used to decide the better model between RE and FE models (Hausman, 1978). The Hausman test rejects the null hypothesis at 10 percent significance level; this leads to the conclusion that FE model is the better one among these two models. In order to ensure the robustness of the results, multicollinearity, heteroskedasticity and serial correlation are checked for the Vietnamese tourism demand model. The mean value of variance inflation factor calculated at 1.56 shows that there is no multicollinearity problem for Vietnam. Nonetheless, significant results for both heteroskedasticity and serial

correlation revealed that these problems exist. In order to rectify these problems, OLS with panel-corrected standard errors is estimated and the results are presented in the last column of Table 3.

Based on the estimated result, all independent variables are statistically significant. Among others, the income level of Vietnam has a positive influence on tourist arrivals into the nation. Higher national income of a destination can be translated into better economic performance, which leads to infrastructure development; for the tourism sector, this would mean higher standards of accommodation and better facilities that will attract more tourists (Alawin and Abu-Lila, 2016; Lorde et al., 2016). Similarly, Lean et al. (2014), and Aratuo and Etienne (2019) also found evidence that tourism sector's growth is stimulated by improved economy performance of the countries under study which are Malaysia and United States.

In addition, the results reveal that income levels of tourists also positively affect tourists' decision to travel; an increase in tourist income level would lead to more tourists visiting Vietnam and vice versa. This result confirms that wealth effect exists among the tourists from top ten origin countries. Researchers such as Mohamed Ali Ibrahim (2011), Thien et al. (2015), and Puah et al. (2018) disclosed the same findings where increased tourist's income will induce more tourist inflows to the destination countries under study, respectively.

On the other hand, tourism price imposes a positive impact on the tourist arrivals into Vietnam, which contrasts with past studies. A positive relationship implies that an increase in tourism price will results in an increase in tourist arrivals into Vietnam and vice versa. It is important to highlight the fact that the top three tourist origin countries for Vietnam are China, Korea and Japan where these three countries have altogether contributed 55.89 percent of total tourist arrival. For these tourists, despite there is an increase in tourism price in Vietnam, they still prefer to travel to Vietnam as it is much convenient and comparatively cheaper to travel within the same region as compared to travelling to other regions such as America or Europe.

Furthermore, World Economic Forum (2017) stated Vietnam's main drivers behind tourism sector well performance in 2017 are natural resources, cultural resources and price competitiveness. In terms of price competitiveness, Vietnam rank 35th out of 136 countries studied by World Economic Forum (2017) in their The Travel and Tourism Competitiveness Report. This suggests that Vietnam has the price competitive advantage in spite of increase in tourism price compared with majority of tourism destinations in the world. Another explanation for a positive relationship between tourism demand and tourism price in Vietnam is that the increase in tourism price is driven by strong demand from international tourists, this condition is also known as demand push inflation. Therefore, even with increase in tourism price, tourists still travel to Vietnam. Correspondingly, a study by Tkales and Vizek (2016) confirms that strong tourism activities will lead to increase in price level which is in support of demand push inflation situation such as found in this study.

Moreover, travel cost is discovered to have a negative relationship with tourism demand in Vietnam. Recall that distance variable consists of two components – geographical distance and crude oil price. As distance is static or time invariant, countries located farther from Vietnam will encounter more increase in travel cost compared to nearer countries when crude oil price increases and this discourage tourists from more distant origin countries to visit Vietnam. A negative impact of travel cost is also proven in the studies of Dritsakis (2004), Mohd Salleh et al. (2008) and Puah et al. (2014).

CONCLUSION

Vietnam's national income level is an important factor affecting tourist decisions to travel to Vietnam. Given that this variable has a positive relationship with tourism demand, this indicates that if Vietnam's economy is performing well, more tourists will visit the nation, as improving economic performance is usually associated with various types of development. These developments would improve infrastructure as well as other industries related to tourism. Therefore, Vietnam should continue to improve its economic performance using various policies such as attracting more foreign direct investment and providing incentives to expand the business scale and scope of the private sector.

In addition, origin country income level is one of the important factors that attract tourists to Vietnam. This finding suggests that close monitoring of the economic performance of the tourist origin countries is essential. More promotion efforts should be made targeting countries with good economic performance to attract more tourists from those countries. On the contrary, if a tourist origin country's economy is not performing well, the Vietnamese tourist industry should divert its attention to other potential countries in order to sustain the performance of its tourism sector. In addition, this finding also suggests that Vietnam's tourism authorities diversify their promotion efforts to other

potential countries. This is because a more diversified source of tourist inflow could help the tourism sector in Vietnam to survive a major decline in performance in the scenario wherein any of the current top-ten tourism-generating countries face an economic downturn.

Moreover, tourism price is also an important variable that affects tourism demand in Vietnam. Although a positive relationship exists between tourism demand and tourism price in Vietnam, such relationship is not unlikely to be sustainable in the long run. Therefore, Vietnamese tourism authorities could either try to maintain or reduce price levels in order to attract more tourists, improve the quality of tourism services, or upgrade tourism infrastructure so that tourists will feel that it is worthwhile to spend their money.

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