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THE EFFECTS OF EXCHANGE RATE, PRICE COMPETITIVENESS INDICES AND TAXATION ON INTERNATIONAL TOURISM DEMAND IN MALAYSIA

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ABSTRACT. This study examines the effect of Malaysia's domestic taxation policy, price and exchange competitiveness with neighboring countries on international tourism demand in Malaysia based on the quantile estimation. Using monthly-based time series data, which set over the period of 1996-2017, we adopt the bootstrap quantile regression model to provide a comprehensive relationship of international tourism demand theory in Malaysia. The empirical results show that sales tax has a negative relationship with international inbound tourism demand, mainly at the middle quantile stages. Moreover, we also found that price competition from Thailand has a positive influence on Malaysia's tourism demand; and appreciation of Indonesia's exchange rate competitiveness tends to lead Malaysia's tourism demand. These empirical findings open up new insights for policymakers in Malaysia as to how to improve fiscal policies and enhance continual increase of international inbound tourism demand in the upcoming years.

JEL Classification: C50, G20, Z32

Keywords: exchange rate, international tourism, quantile regression; price competitiveness.

Introduction

The recent United Nation World Tourism Organization (UNWTO) (2018) report has announced Malaysia as the top 15 most visited country in the world and also third in the Asian region. This recognition reflects the performance of Malaysian tourism industry as an important contributor to the economy and one of the major providers of foreign exchange earnings. In 2016, the share of Gross Value Added of Tourism Industries (GVATI) to Gross Domestic Product (GDP) exalted to 13% on average as compared to the average of 11% in 2010 (MOTAC, 2017). This impressive contribution of tourism industry to the economy is the result of continuous and long-term planning of the Malaysia's government since 1970s. Ever since the worldwide tourism boom in the 1980s, the tourism industry has been given much attention, being recognized as the potential sector for both economic and social development. Serious interest in developing tourism industry has been channeled through the 10th Malaysian Plan where more and more public allocations were provided to develop and strengthen the tourism sector along with the National Tourism Policy in 1992, National Ecotourism Plan in 1996 and the Malaysian Tourism Transformation Program in 2010.

Beside funds' allocation, tax incentives are provided to invite the participation of new players in this industry. The main incentives such as pioneer status and investment tax allowance are provided under the Promotional of Investment Act 1986 while some smaller incentives are provided under the Income Tax Act 1967. These incentives cover a wide range of activities including product development, marketing and promotion, human resource development and infrastructure development, particularly for tourism industry players. The overall policy thrust of the tourism sector is to stimulate this sector to achieve sustainable tourism growth and realize the full potential of employment and impact of income generation at the national, state and local levels.

Tourism industry, as mentioned earlier, is undoubtedly important for sustainability of economy from the income earned (Sokhanvar et al., 2018). Thus, ensuring tourist satisfaction during the visit is important for income generation. Formulation of macroeconomic policy, such as real effective exchange rate, availability and cost of capital as well as fiscal policy should consider every single factor that provide the ability to compete among countries in the region in terms of attracting tourists (De Keyser & Vanhove, 1994; MacNeill & Wozniak, 2018). Lejárraga and Walkenhorst (2013) indicated that the determinants representing business environments such as taxation, labor market regulations and trade regulations have the most profound impact on the formation of tourism linkages. The first generation of researchers including Crouch and Ritchie (1999), Jenkins and Henry (1982), Jensen and Wanhill (2002), and Spengler and Uysal (1989) in this context mutually agreed that taxing tourist, although seems distorted, is vital for survival of this industry due to the fact that the income generated will go back to the industry in the shape of facilities' development and other encouragements for the industry.

Realizing the importance of tourism industry for the whole economy, Getz and Page (2016) reviewed the progress and prospects for tourism research supporting the focus on macroeconomic factors as previously discussed by De Keyser and Vanhove (1994). Balli and Louis (2015) in modelling tourism receipts' volatility have highlighted the inability of previous studies to arrive at a consensus regarding tourism revenue generation. It is actively discussed that taxing the tourism industry, although seems distorting the industry is vital in assisting revenue generation specifically in developing countries. It is believed that taxation may provide either positive, or negative economic impacts for different economies. A seminal paper by Bird (1992) has emphasized the importance of taxing tourism, specifically in developing countries. Further taxing of tourists through taxing their expenditures via value added tax or goods and services tax may deter international tourists.

A big strand of theoretical and empirical literature has documented the effect of tax policy changes in tourism industry due to its role in today's global economy (Radjenovic, 2018; Pjerotic et al., 2017; Ruzic & Demonja, 2017). Strong taxation on tourism does affect not only inbound, but also outbound tourism. Prominent contributions include Dombrovski and Hodžić (2010), Sheng (2011), Vjekoslav et al. (2012), Forsyth et al. (2014), Dwyer et al. (2016), and Dai et al. (2017) among others. All of them agree on the inverse effect of taxation on tourism industry. In the event of global competitiveness and high dependency of countries on income from tourism industry, these issues are something to ponder upon. Although taxation has been viewed as having a negative impact on tourism industry, it is vital, according to Wattanakuljarus and Coxhead (2008) and Álvarez-Albelo et al. (2017) to tax tourists. Taxing the tourist is the best instrument in finding the sources needed by tourism sector for tourism rejuvenation policies, promotional campaigns and improving the industry overall.

Taxing in the tourism industry is not only the function of income generation, but it is also acting as a strategic move by the governments to overcome the issues related to this industry (Palmer & Riera, 2003; Goorochun & Sinclair, 2005). Wattanakuljarus and Coxhead (2008) have highlighted the importance of not solely relying on tourism growth as a panacea for development of policy goals. Focusing on this matter, Croes and Kubickova (2013) has offereda Tourism Competitiveness Index (TCI) which derives from satisfaction, productivity and quality of life. In the discussion, they highlight the importance of not solely focusing on one factor only when looking at competitiveness. Gago et al. (2009) found that increases in indirect taxes on tourism activities may hamper the industry and promote bad practices such as black market, which will avoid paying taxes as such.

In offering a solution for reducing traffic congestion and promoting efficient traffic level, Palmer-Tous et al. (2007) has suggested the implementation of fixed-rate tax on vehicle hired by tourists in Mallorca. There is also a changing pattern of tourist arrivals: tourists today prefer higher number of shorter breaks to short-distance destinations, and this results in the increased mobility. Discussion on the nexus between taxation and tourism does not only focus on how taxing the tourist becomes income generation for the government. Suess and Mody (2016) observed this issue in the case of Los Angeles and found that the local residents are willing to pay higher taxes for the authority to support the improvement of tourism sector which becomes the backbone of the economy.

As the above study merely discussed the impact of imposing a new tax or increasing the existing tax, Ponjan and Thirawat (2016) has looked at the impact of tourism tax cuts. Focusing on Thailand, their study has found a positive impact of tax cuts on inbound tourism in this country. This tax reduction improves trade and stimulates the country's GDP in that particular period. Thus, formulating fiscal policy should be more inclusive to ensure better long-run impacts on the tourism industry. This is in line with Matteo and Cavuta (2016) findings as they state that the tax cut application would create opportunities for investments and also job opportunities. Eventually, tax cuts as well as decline in prices usually become the pivotal tools for boosting tourism development. Recent study by Martins et al. (2017) found that tourists are more concerned about the price comparison when choosing a destination and planning their spending at that particular destination. Under normal circumstances, we realize that consumer is looking for a good bargain when deciding on the destination for holiday. Whenever a tourism destination is offering a low price, it usually becomes a popular tourism spot. Looking from a different perspective, Pennerstorfer (2017) highlighted other consumer preferences when choosing a destination. Analyzing the price dampening effect, this study found that the effect depends on product quality showing strong interaction between price and quality of products.

Realizing the importance of price competitiveness for both inbound and outbound tourist movements, voluminous amounts of discussion have been devoted to studying this relationship (Falzon, 2012; Andergassen et al., 2013, Dogru et al., 2016, Viglia et al., 2016). Dogru et al. (2016) emphasized on the tendency of misleading results in utilizing exchange rates and prices as mutually exclusive components while explaining the determinants of tourist demand. Thus, it is important to meticulously choose a proper proxy in analyzing the impact of price competitiveness upon inbound and outbound tourism demand (Seetaram et al., 2016). The simultaneous effect of both taxation and price competition on tourist demand is something to wonder about. In tourism industry, which generally focuses on providing service, Value Added Tax (VAT) or Goods and Services Tax (GST) will be imposed and it is quite impossible to evade from such tax resulting in slightly higher charges on touristic product. Highlighting this, Rey-Maquieira et al. (2009) focused on the quality of accommodation provided which usually resulted in high prices charged to consumers. The study highlighted the importance of understanding and formulating tax policy for the tourism sector. Gago et al. (2009) focused on the same issue and emphasized that price elasticity in the tourism industry caused by tax leads to a noteworthy variation in the behavior of both businesses and consumers.

The remaining part of the paper is organized as follows. The next section explains data and methodology, mainly focusing on the data sources and empirical approaches used in this study. This is followed by the empirical results and discussions. The final section presents the overall conclusion and policy implications.

2. Data source and methodology

This study uses quarterly based time series data covering the period of 1996 (January) until 2017 (December). All data are collected from the Ministry of Tourism and Culture Malaysia (MOTAC, 2018) and the following equations indicate the relationship of each model estimated in this study, respectively. Based on the Almost Ideal Demand System (AIDS), these equations will tend to investigate the quantile effects of relation between international tourism demands with taxation, price competitiveness and exchange rate condition for Malaysia

$$Tour_t = f(STax_t, IDTax_t) \quad (1)$$
$$Tour_t = f\left(P_t^{Mas}, P_t^{Ind}, P_t^{Thai}\right) \quad (2)$$
$$Tour_t = f\left(ER_t^{Mas}, ER_t^{Ind}, ER_t^{Thai}\right) \quad (3)$$

where, Tour represents the total numbers of tourist arrivals, STax and IDTax is the volume of sales tax and indirect tax collections (in USD values), price competitiveness valued by the Consumer Price Index (CPI) represents by P^{Mas}, P^{Ind} and P^{Thai} (for Malaysia, Indonesia and Thailand), the exchange rates represent by ER^{Mas}, ER^{Ind} and ER^{Thai} for Malaysia, Indonesia and Thailand, respectively. In order to investigate the impact of taxation, price competitiveness and exchange rate on international tourism demand, all series were transformed into logarithm formation with the seasonally adjusted condition.

As a standard procedure dealing with time series data and avoiding the constant variant issue, we used the standard unit root test of the Augmented Dickey-Fuller (ADF) (1981), Phillip-Perron (PP) (1988) and the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) (1992) tests. Since there are various types of cointegration test with different and unique focus, we therefore emphasized the combine cointegration test developed by Bayer and Hanck (2013). This approach allows the combination of individual cointegration test results from the Engle and Granger, Johansen, Boswijk and the Banerjee's tests by generating the jointly t-test statistic for the null hypothesis of no cointegration. The p-value of the estimated combine cointegration with the individual cointegration test can be tested based on the following Fisher's formula as follows:

$$EG - JOH = -2[ln(p_{EG}) + (p_{JOH})] \quad (4)$$
$$EG - JOH - BOW - BDM = -2[ln(p_{EG}) + (p_{JOH}) + (p_{BOW}) + (p_{BDM})] \quad (5)$$

where, the p_{EG}, p_{JOH}, p_{BOW} and p_{BDM} represent the p-values of the individual cointegration tests. The null hypothesis of no cointegration will be rejected when the estimated Fisher statistics exceed the Bayer and Hanck's (2013) critical values. Next, we used the quantile unit root test to capture the quantile varying condition of the estimate series. Koenker and Machado (1999) initially proposed the concept of goodness-of-fit of quantile regression model. The quantile regression based on the fundamental formulation of estimation can be defined as follows:

$$\hat{Q}_{(\tau)} = min\left[-\sum_t^T \quad (1-\tau)\left(y_t - \hat{\beta}_{0(\tau)} - Z'\hat{\beta}_{1(\tau)}\right) + \sum_t^T \quad (\tau)\left(y_t - \hat{\beta}_{0(\tau)} - Z'\hat{\beta}_{1(\tau)}\right) +\right] \quad (6)$$

For the purpose of this study, we extend the existing literature, by relaxing the symmetric assumption, as we adopt the single-step quantile regression framework. The estimation of the coefficients will have faced for the range of τ=0.10, τ=0.25, τ=0.50, τ=0.75 and τ=0.90, respectively. Therefore, the estimated quantile regression can be defined as follows:

$$Tour_t^{(\tau)} = \beta_0^\tau + \beta_1^\tau STax_t + \beta_2^\tau IDTax_t + \mu_t \quad (7)$$

$$Tour_t^{(\tau)} = \beta_0^\tau + \beta_1^\tau P_t^{Mas} + \beta_2^\tau P_t^{Ind} + \beta_3^\tau P_t^{Thai} + \mu_t \quad (8)$$

$$Tour_t^{(\tau)} = \beta_0^\tau + \beta_1^\tau ER_t^{Mas} + \beta_2^\tau ER_t^{Ind} + \beta_3^\tau ER_t^{Thai} + \mu_t \quad (9)$$

3. Empirical findings

Based on the results in Figure 1, it can be seen that the distribution of the variables employed in this study is not normally distributed. Moreover, the tail of the distributions contains useful information that the OLS regression estimates cannot reveal comprehensively. Table 1 clearly reported the estimated unit root test results. Overall, the estimated unit root test reveals to reject the null hypothesis at the level stage and all series rejected the null hypothesis at the first difference stage. Therefore, we confirm that all series are integrated at first difference or $I(1)$ and we proceed with the cointegration test. The descriptive statistics based on the skewness and the kurtosis results show clearly that the distributions of the series deviate from a normal distribution condition (see Table 2). The results of the kurtosis coefficient of all series are not equal to 3, meaning that all of the series are not normally distribute as well.

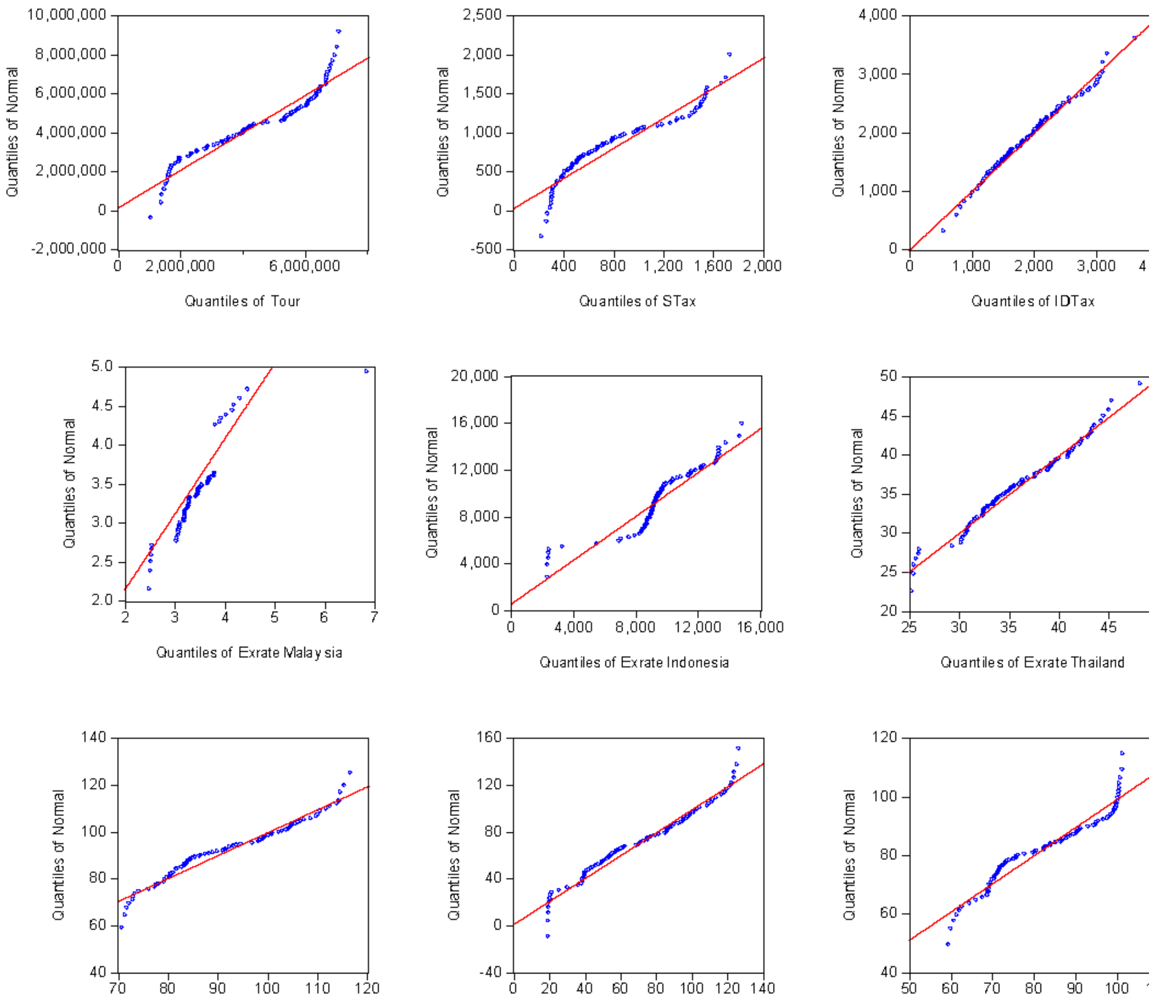

Figure 1. The quantile-to-quantile (Q-Q) plots

Table 1. Unit root test results with trend and intercept effect

	At level			At first difference		
	ADF	PP	KPSS	ADF	PP	KPSS
$Tour_t$	-1.080	-1.242	1.052*	-7.658*	-14.961*	0.200
$STax_t$	-0.658	-2.168	1.271*	-9.864*	-13.910*	0.111
$IDTax_t$	-1.273	-2.746	0.963*	-9.101*	-6.266*	0.110
P_t^{Mas}	-0.592	-0.607	1.158*	-7.598*	-7.538*	0.068
P_t^{Ind}	-0.565	-0.677	1.119*	-7.210	9.888*	0.009
P_t^{Thai}	-1.787	-1.799	0.999*	-5.678	12.899*	0.078
ER_t^{Mas}	-0.998	-1.009	1.034*	-9.001	11.009*	0.099
ER_t^{Ind}	-0.556	-0.665	1.444*	-4.666	10.899*	0.101
ER_t^{Thai}	-1.345	-1.456	0.987*	-4.889	16.889*	0.004

Note: The Akaike Information Criterion (AIC) is used to select the appropriate lag length. *, ** and *** are statistical significance at the 1, 5 and 10% levels respectively.

Table 2. Summary of statistics

Variable	$Tour_t$	$STax_t$	$IDTax_t$	P_t^{Mas}	P_t^{Ind}	P_t^{Thai}	ER_t^{Mas}	ER_t^{Ind}	ER_t^{Thai}
Mean	6.591	2.851	3.267	1.960	4.138	4.396	1.256	9.091	3.569
Median	6.639	2.852	3.297	1.959	4.266	4.411	1.302	9.131	3.564
Maximum	6.850	3.239	3.559	2.066	4.837	4.618	1.923	9.602	3.874
Minimum	6.017	2.342	2.739	1.849	2.950	4.082	0.907	7.749	3.228
Std. Dev.	0.230	0.255	0.159	0.061	0.539	0.160	0.146	0.394	0.150
Skewness	-0.723	-0.079	-0.711	0.013	-0.735	-0.122	0.353	-2.304	-0.328
Kurtosis	2.242	1.761	2.495	1.823	2.662	1.759	2.638	2.433	2.644
J-B (Prob)	0.009*	0.065***	0.018**	0.088***	0.018**	0.060***	0.000*	0.000*	0.376
Correlation matrix									
$Tour_t$	**1.000**								
$STax_t$	0.853* (0.000)	**1.000**							
$IDTax_t$	0.662* (0.000)	0.817* (0.000)	**1.000**						
P_t^{Mas}	0.917* (0.000)	0.920* (0.000)	0.654* (0.000)	**1.000**					
P_t^{Ind}	0.935* (0.000)	0.873* (0.000)	0.621* (0.000)	0.965* (0.000)	**1.000**				
P_t^{Thai}	0.917* (0.000)	0.922* (0.000)	0.630* (0.000)	0.992* (0.000)	0.966* (0.000)	**1.000**			
ER_t^{Mas}	0.079 (0.472)	0.041 (0.707)	0.055 (0.614)	0.176 (0.108)	0.259** (0.017)	0.135 (0.217)	**1.000**		
ER_t^{Ind}	0.565* (0.000)	0.554* (0.000)	0.370* (0.000)	0.661* (0.000)	0.734* (0.000)	0.670* (0.000)	0.657 (0.000)	**1.000**	
ER_t^{Thai}	-0.238** (0.028)	-0.308* (0.004)	-0.139 (0.207)	-0.254** (0.019)	-0.102 (0.354)	-0.256** (0.018)	0.739* (0.000)	0.476* (0.000)	**1.000**

Note: The estimation is based on logarithm data series and values in ( ) represent the p-values. *, ** and *** represent significance level at 1,5 and 10%.

Once all series are integrated with $I(1)$, therefore we further our estimation based on the cointegration approach. This approach aimed to capture the overall long-run integration of all series used in this study. As shown in Table 3, we found that all series have a strong cointegration effect based on the traditional and the combined cointegration condition. Ironically, this result is similar with most of the previous empirical work, such as Ponjan and Thirawat (2016), Vjekoslav at al. (2012), and Wattanakuljarus and Cox (2008).

Table 3. Cointegration test results

Test types	Test statistics	*p*-values	Cointegration
Traditional cointegration test			
Engle-Granger	12.111*	0.000	Yes
Johansen	8.968**	0.050	Yes
Banerjee	11.191*	0.006	Yes
Boswijk	10.888*	0.003	Yes
Combine cointegration test			
Engle-Granger & Johansen	23.282* [15.686]		Yes
Combine cointegration	27.990* [17.902]		Yes

Note: *, ** and *** indicate statically significant at 1, 5 and 10%, respectively. Values in [ ] represent critical values at 1% significant level.

The results of the quantile regression model are shown in Table 4. We obtain the significant level of regression coefficient of different factors and the regression coefficients at different quantile regression levels. For example, based on the first model which capture the effects of taxation on tourism, we found that *STax* are negatively related with numbers of international tourist arrival throughout the estimated quantiles. While, *IDTax* does not reflect at all on Malaysia tourism demands (see Table 4a). From Table 4(b), we found that, Malaysia's neighboring Thailand and Indonesia are playing an important role in inbound tourism of Malaysia. The results indicate that, there is a positive relative sign with price competitiveness of Indonesia and Thailand on Malaysia inbound tourism demand, mainly in quantile 10, 25, 50 and 75%, respectively.

While, looking the exchange rate competitiveness, we found that, appreciation of Indonesian currency has led to increases of inbound tourism demand Malaysia. Consequently, this condition supported the statistical figures earlier, where Indonesia is the 2nd largest tourist arrival in Malaysia and when the currency appreciate, the momentum of Indonesia tourism demand to Malaysia increases consistently. Finally, when we combine all series using a bootstrap quantile regression, we found that the results still remain the same condition with the previous individual quantile regression. Figure 2 indicates the degree of influence of the series on the international inbound tourism demand to Malaysia with different quantiles. For example, the influence of *STax* and *IDTax* is weaker in the middle quantiles (0.50 and 0.75). While, the price competitiveness and the exchange rate conditions represent an unstable mode of relationship with tourism demand of Malaysia throughout the estimated coefficient. This indicates that, both series is not in line with traditional OLS regression test results. Moreover, the fluctuation happens within quantile 0.60 until 0.80.

Table 4. The results of the bootstrap quantile regression

(a) Taxation effects

Variable	Bootstrap quantile regression (Dependent variable: *Tour*)					
	OLS	τ =.10	τ =.25	τ =.50	τ =.75	τ =.90
$STax_t$	-0.847*	-1.065*	-0.913*	-0.735*	-0.703*	-0.606*
	(-9.411)	(-11.180)	(-9.198)	(-7.932)	(-5.592)	(-4.365)
$IDTax_t$	-0.153	-0.180	-0.162	-0.072	-0.340	-0.318
	(-0.288)	(-1.081)	(-1.062)	(-0.450)	(-1.360)	(-1.382)
	Goodness-of-fit tests					
Adj. *R*-square	0.725	0.494	0.584	0.552	0.441	0.366
Pseudo *R*-Squared		0.506	0.594	0.563	0.454	0.381
Quasi-LR stat.		88.734	146.48	139.47	92.132	50.195
Quasi-LR (p-value)		0.000	0.000	0.000	0.000	0.000

Note: *, ** and *** are statistical significance at the 1, 5 and 10% levels respectively.

(b) Price competitiveness effects

Variable	Bootstrap quantile regression (Dependent variable: *Tour*)					
	OLS	τ =.10	τ =.25	τ =.50	τ =.75	τ =.90
P_t^{Mas}	0.541	-2.549	-2.136	-1.102	-1.783**	-0.836
	(0.457)	(-1.304)	(-1.600)	(-1.469)	(-2.508)	(-0.510)
P_t^{Ind}	0.307*	0.570**	0.445**	0.298*	0.329*	0.267*
	(4.614)	(2.147)	(2.540)	(4.254)	(5.735)	(3.504)
P_t^{Thai}	0.111	0.854***	0.810**	0.623***	0.768**	0.549
	(0.240)	(1.840)	(2.025)	(1.747)	(2.350)	(0.912)
	Goodness-of-fit tests					
Adj. *R*-square	0.877	0.637	0.692	0.710	0.670	0.635
Pseudo *R*-Squared		0.651	0.703	0.720	0.682	0.648
Quasi-LR stat.		140.73	275.09	348.42	260.37	140.99
Quasi-LR (p-value)		0.000	0.000	0.000	0.000	0.000

Note: *, ** and *** are statistical significance at the 1, 5 and 10% levels respectively.

(c) Exchange rate competitiveness effects

Variable	Bootstrap quantile regression (Dependent variable: *Tour*)					
	OLS	τ =.10	τ =.25	τ =.50	τ =.75	τ =.90
ER_t^{Mas}	-0.021	-0.254	-0.039	-0.008	-0.006	0.003
	(-0.468)	(-0.834)	(-0.252)	(-0.204)	(-0.169)	(0.129)
ER_t^{Ind}	0.000*	0.000*	0.000*	0.000*	0.000***	0.000***
	(8.256)	(5.853)	(6.302)	(2.137)	(1.924)	(1.956)
ER_t^{Thai}	-0.020*	-0.010	-0.020**	-0.018*	-0.021*	-0.023*
	(-5.010)	(-0.613)	(-2.295)	(-2.659)	(-4.305)	(-6.640)
			Goodness-of-fit tests			
Adj. *R*-square	0.557	0.261	0.422	0.422	0.426	0.387
Pseudo *R*-Squared		0.288	0.443	0.443	0.447	0.409
Quasi-LR stat.		32.227	68.625	89.547	83.256	64.395
Quasi-LR (p-value)		0.000	0.000	0.000	0.000	0.000

Note: *, ** and *** are statistical significance at the 1, 5 and 10% levels respectively.

(d) Overall estimation results

Variable	Bootstrap quantile regression (Dependent variable: *Tour*)					
	OLS	θ =.10	θ =.25	θ =.50	θ =.75	θ =.90
$STax_t$	-0.271***	-0.430	-0.256	-0.133	-0.095	-0.075
	(-1.944)	(-1.394)	(-1.248)	(-0.913)	(-0.792)	(-0.370)
$IDTax_t$	0.304	0.382	0.408	0.22	0.166	0.067
	(1.567)	(0.782)	(0.026)	(1.185)	(1.453)	(0.253)
P_t^{Mas}	0.065	2.693	-0.981	-1.905***	-0.981	0.442
	(0.047)	(0.833)	(-0.349)	(-1.682)	(-0.925)	(0.192)
P_t^{Ind}	0.426*	0.311	0.386*	0.484*	0.527*	0.503*
	(5.931)	(0.923)	(5.284)	(9.080)	(10.699)	(6.689)
P_t^{Thai}	0.342	-0.097	0.947	0.737	0.105	-0.161
	(0.586)	(-0.045)	(0.835)	(1.471)	(0.270)	(-0.223)
ER_t^{Mas}	-0.196***	-0.578	-0.181	-0.004	-0.031	-0.111
	(-1.681)	(-1.056)	(-0.337)	(-0.055)	(-0.415)	(-1.117)
ER_t^{Ind}	0.112***	0.042	0.178**	0.151	0.133	0.192
	(-1.711)	(-0.268)	(-2.431)	(-1.134)	(-1.037)	(-1.225)
ER_t^{Thai}	0.076	0.151	0.199	0.021	-0.018	0.213
	(0.458)	(0.367)	(0.536)	(0.087)	(-0.069)	(0.626)
			Goodness-of-fit tests			
Adj. *R*-square	0.921	0.716	0.750	0.755	0.721	0.669
Pseudo *R*-Squared		0.743	0.774	0.778	0.748	0.700
Quasi-LR stat.		204.58	344.00	413.36	322.69	218.54
Quasi-LR (p-value)		0.000	0.000	0.000	0.000	0.000

Note: *, ** and *** are statistical significance at the 1, 5 and 10% levels respectively.

Conclusion

Overall, this paper has explored the effects of exchange rate, price competitiveness and domestic taxation policy on international tourism demand in Malaysia. The effects of sales tax seem to have a negative relationship with international tourism demand, while the price competitiveness of Indonesia having a positive relationship with the international tourism demand. The findings of this study provide a new platform for empirical type research for future researcher to explore and the interface for this study. The approach used in this study is also very useful for the policymaker to tackle new approach to improve the internal and external factors reflecting on Malaysia’s international inbound tourism demand for the up-coming Visit Malaysia Year 2020.

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References

Álvarez-Albelo, C.D., Hernández-Martín, R., & Padrón-Fumero, N. (2017). Air Passenger Duties as Strategic Tourism Taxation. *Tourism Management*, *60*, 442-453.

Andergassen, R., Candela, G., & Figini, P. (2013). An Economic Model for Tourism Destinations: Product Sophistication and Price Coordination. *Tourism Management*, *37*, 86-98.

Balli, F., & Louis, R.J. (2015) Modelling the Tourism Receipt's Volatility. *Applied Economics Letters*, *22*, 110-115.

Bayer, C., & Hanck, C. (2013). Combining Non-cointegration Tests. *Journal of Time Series Annals*, *34*, 83-95.

Bird, R.M. (1992). Taxing Tourism in Developing Countries. *World Development*, *20*, 1145-1158.

Croes, R., & Kubickova, M. (2013). From Potential to Ability to Compete: Towards a Performance-Based Tourism Competitiveness Index. *Journal of Destination Marketing & Management*, *2*, 146-154.

Crouch, G.I., & Ritchie, B. (1999). Tourism, Competitiveness and Societal Prosperity. *Journal of Business Research*, *44*, 137-152.

Dai, B., Jiang, Y., Yang, L., & Ma, Y. (2017). China's Outbound Tourism – Stages, Policies and Choices. *Tourism Management*, *58*, 253-258

De Keyser, R., & Vanhove, N. (1994). The Competitive Situation of Tourism in the Caribbean Area Methodological Approach. *The Tourist Review*, *49*(3), 19-22.

Dickey, D., & Fuller, W. (1981). Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root. *Econometrica*, *49*(4), 1057-1072.

Dogru, T., Sirakaya-Turk, E., & Crouch, G. I. (2017). Remodeling International Tourism Demand: Old Theory and New Evidence. *Tourism Management*, *60*, 47-55

Dombrovski, R., & Hodžić, S. (2010). Impact of Value Added Tax on Tourism. *International Business and Economics Research Journal*, *10*, 131-138.

Dwyer, L., Forsyth, P., & Spurr, R. (2016). Tourism Economics and Policy Analysis: Contributions and Legacy of the Sustainable Tourism Cooperative Research Centre. *Journal of Hospitality and Tourism Management*, *26*, 91-99.

Falzon, J. (2012). The Price Competitive Position of Mediterranean Countries in Tourism: Evidence from the Thomson Brochure. *Tourism Management*, *33*(5), 1080-1092.

Forsyth, P., Dwyer, L., Spurr, R., & Pham, T. (2014). The Impacts of Australia's Departure Tax: Tourism Versus the Economy? *Tourism Management*, *40*, 126-136.

Gago, A., Labandeira, X., Picos, F., & Rodrı´guez, M. (2009). Specific and General Taxation of tourism activities. Evidence from Spain. *Tourism Management*, *30*, 381-392.

Getz, D., & Page, S.J. (2016) Progress and Prospects for Event Tourism Research. *Tourism Management*, *52*, 593-631.

Gooroochurn, N., & Sinclair, M.T. (2005). Economics of Tourism Taxation: Evidence from Mauritius. *Annals of Tourism Research*, *32*(2), 478-498.

Jenkins C.L., & Henry, B.M. (1982). Government Involvement in Tourism in Developing Countries. *Annals of Tourism Research*, *9*, 499-521.

Jensen, T.C., & Wanhil, S. (2002). Tourism's Taxing Times: Value Added Tax in Europe and Denmark. *Tourism Management, 23*, 67-79.

Koenker, R., & Machado, J.A.F. (1999). Goodness of Fit and Related Inference Process for Quantile Regression. *Journal of American Statistical Association, 99*, 775-787.

Kwiatkowski, D., Phillips, P.C.B., Schmidt, P., & Shin, Y. (1992). Testing the Null Hypothesis of Stationarity against the Alternative of a Unit Root. *Journal of Econometrics, 54*, 159-178.

Lejárraga, I., & Walkenhorst, P. (2013) Economic Policy, Tourism Trade and Productive Diversification. *International Economics, 135-136*, 1-12.

Martins, L. F., Gan, Y., & Ferreira-Lopes, A. (2017). An Empirical Analysis of the Influence of Macroeconomic Determinants on World Tourism Demand. *Tourism Management, 61*, 248-260.

Matteo, D.D., & Cavuta, G. (2016) Enogastronomic Tourism: Can it Mitigate the Intangibility of the Destination? Street Food as a New Business Model for the Management of Tourist Regions. *Procedia-Economics and Finance, 39*, 347-356.

MacNeill, T., &Wozniak, D. (2018). The Economic, Social and Environmental Impacts of Cruise Tourism. *Tourism Management*, 66, 387-404.

MOTAC. (2018). Ministry of Tourism and Culture Malaysia. Retrieved December 20, 2018, from http://www.motac.gov.my

Palmer, T., & Riera, A. (2003) Tourism and Environmental Taxes: With Special Reference to the ‘‘Balearic Eco Tax’’. *Tourism Management, 24*, 665-674.

Palmer-Tous, T., Riera-Font, A., & Rossello´ Nadal, J. (2007). Taxing Tourism: The Case of Rental Cars in Mallorca. *Tourism Management, 28*, 271-279.

Pennerstorfer, D. (2017). Can Competition Keep the Restrooms Clean? Price, Quality and Spatial Competition. *Regional Science and Urban Economics, 64*, 117-136.

Phillip, P.C.B., & Perron, P. (1988). Testing the Unit Root for Time Series Regression. *Biometrica, 75*(2), 335-346.

Pjerotic, L., Delibasic, M., Joksiene, I., Griesiene, I., & Georgeta, C. P. (2017). Sustainable Tourism Development in the Rural Areas. *Transformations in Business & Economics, 16*(3) (42), 21-30.

Ponjan, P., & Thirawat, N. (2016). Impacts of Thailand's Tourism Tax Cut: A CGE Analysis. *Annals of Tourism Research, 61*, 45-62.

Radjenovic, M. (2018). The Quality of Human Resources in Tourism and Hospitality Industry in Montenegro. *Transformations in Business & Economics, 17*(2) (44), 86-94.

Rey-Maquieira, J., Lozano, J., & Gómez, C. M. (2009). Quality Standards Versus Taxation in a Dynamic Environmental Model of a Tourism Economy. *Environmental Modelling & Software*, 24(12), 1483-1490.

Ruzic, P., & Demonja D. (2017). Economic Impacts of Rural Tourism in Rural Areas of Istria (Croatia). *Transformations in Business & Economics, 16(*3) (42), 31-41.

Seetaram, N., Forsyth, P., & Dwyer, L. (2016). Measuring Price Elasticities of Demand for Outbound Tourism using Competitiveness Indices. *Annals of Tourism Research, 56*, 65-79.

Sheng, L. (2011). Taxing Tourism and Subsidizing Non-Tourism: A Welfare-Enhancing Solution to “Dutch Disease”?. *Tourism Management, 32*, 1223-1228.

Sokhanvar, A., Çiftçioğlu, S., & Javid, E. (2018). Another Look at Tourism-Economic Development Nexus. *Tourism Management Perspectives, 26*, 97-106.

Spengler, J. O., & Uysal, M. (1989). Considerations in the Hotel Taxation Process. *International Journal Hospitality Management, 8*(4), 309-316.

Suess, C., Mody, M. (2016). Gaming Can be Sustainable Tool Using Social Representation Theory to Examine the Moderating Effects of Tourism Diversification on Residents' Tax Paying Behavior. *Tourism Management, 56*, 20-39.

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United Nation World Tourism Organization. (2016). Retrieved December 24, 2017, from http:// www.unwto.org

Viglia, G., Mauri, A., & Carricano, M. (2016). The Exploration of Hotel Reference Prices Under Dynamic Pricing Scenarios and Different Forms of Competition. *International Journal of Hospitality Management, 52*, 46-55.

Vjekoslav, B., Bejaković, P., & Anton, D. (2012). Tax System as a Factor of Tourism Competitiveness: The Case of Croatia. *Procedia-Social and Behavioral Sciences, 44*, 250-257.

Wattanakuljarus, A., & Coxhead, I. (2008). Is Tourism-Based Development Good for the poor? A General Equilibrium Analysis for Thailand. *Journal of Policy Modeling, 30*, 929-955.