

The Impact of Middle East's Tourist Arrivals towards Economic Growth in Sarawak

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Abstract

This paper aims to study the impact of Middle East's tourist arrival towards economic growth in Sarawak. Augmented Dicky-Fuller (ADF) is used to find the stationary of the variables. Besides that, Johansen Cointegration Test and VAR Granger Causality Test are used to address the objectives of study. The results revealed the existence of a short run relationship only between the variables of GDP, Middle East's tourist arrivals, government expenditure and exchange rate in Sarawak. In addition, the VAR granger causality test indicated that GDP causes both GE and ER in the short run unidirectional respectively. However, the META granger cause the GDP and GE in unidirectional in the short run respectively.

Keywords Causality, cointegration, VAR

INTRODUCTION

Tourism is often described as the movement of people away from home to other places of interest (Bukart and Medlik, 1987). As pointed by Scheyvens and Momsen (2008), tourism is one of the largest and fastest growing industries in the world. Many countries of the world now adopt tourism as a major source of foreign exchange earnings as well as an alternative for export of other commodities.

Bhatiah (2001) stated that tourism being a major source of income and employment for many countries depends heavily on environmental resources that include pristine beaches, warm climate, clean air, and landscape formation among others. Mensah (2006) also mentioned that many tourist destinations harnessed some of these environmental resources for the overall development of their tourism industry. However, lack of proper management of these resources may lead to environmental inefficiency (Bohdanowicz, 2005). As pointed by Pigram (1995), tourism can certainly contribute to environmental

degradation and is self destructive has apart from having the potential to bring about significant enhancement to the environment.

Tourism has a direct impact on the national revenue for all touristic countries. It creates work opportunities, industries and several investments to serve and raise nations' performance and cultures which indirectly spread their history, civilization and traditions. Tourism is an important industry that depends on culture and science. Malaysia has some of the most attractive holiday destinations in the world. Local and foreign tourists alike have contributed significantly to the development of tourism as a major contributor to the nation's economy. One of the key thrusts in the Ninth Malaysian Plan states the Government's intention to move the economy up the value chain through focusing on several areas including tourism.

Malaysia has managed to strengthen the development of the tourism industry and making the country as a major tourist destination in Southeast Asia and as the second largest in Asia after China in terms of tourist arrivals with the theme of 'Malaysia Truly Asia' in 2009. Now, the tourism industry has become as one of main sources that contribute to economic growth, investment and employment in the country through foreign exchange.

In Sarawak, the tourism industry is an economic sector that contributes greatly to the state's gross domestic product (GDP). With its colourful and multiracial cultures and diverse festivals, Sarawak has attracted tourists from different countries.

Tourism Background in Sarawak

Tourism is emerging as a major industry in Malaysia. According to King (1988), Malaysia's tourism industry is relatively young and less developed as compared with other South-East Asia nations. In the mid of 1980s, Malaysia's had only emphasis on tourism sector where serious development effort was initiated. Recently, tourism is the second largest source of foreign exchange and a major contributor to Malaysia's economy. In the Ninth Malaysia Plan, tourism is considered as one of the key growth sectors. Its development has been recognized as successful in facilitating the economic growth and diversifying its economic base. In 1998, tourist arrivals in Malaysia increased from 5.5 million to 24.7 million in 2011. Statistics indicates that revenue from the tourism sector in 2011 contributes RM 58.3 million with a corresponding tourist's arrival of 24.7 million (Tourism Malaysia, 2011). This ranked tourism to be the second major source of revenue to Malaysian economy.

Sarawak also regards tourism as highly potential sector to drive state's economy. According to the statistics reported by the Sarawak Tourism Board, 2,343,236 foreign tourists visited Sarawak in 2011. In 2011, tourism receipts for Sarawak were RM 4.313 billion. Tourism not only provides substantial revenues but also creates employment opportunities.

In 1994, the establishment of Ministry of Tourism (MOT) Sarawak reflected the important role of the tourism sector. The responsibility of MOT is to deal

mainly on policies and acts as a coordinating body in policy implementation. Sarawak Tourism Board (STB) is an agency set up by the state government to stimulate, promote and market Sarawak as a tourist destination. STB also provides tourism services and act as an advisory body.

Problem Statement

The future of the tourism industry is bright as the World Tourism Organization (WTO) forecasts that an estimated one billions tourist will be travelling around the world by 2011. The expansion and growth of tourism has contributed to the development of the developed countries as well as less developed countries. As pointed by Ashley (2000), the economic potential of tourism in less developed countries has been identified as an important contributing factor to global tourism growth. Honey (1999), on the other hand, stated that tourism is normally been portrayed as contributor to small scale enterprises and directly uplifting the standard of living as well as a catalyst for community development.

In Malaysia, tourism is the second largest contributor to the economy next to the manufacturing sector. Malaysia's efforts in developing and promoting its tourism products have produced impressive results. As well as for Sarawak economy, tourism industry is very important. The number of visitors to Sarawak increases almost every year. In 2010 for instance, 3.3 million visitors were recorded. The number increased by 16 per cent in 2011 bringing it to 3.8 million to the state. The estimated revenue it brought to the State was estimated to be in order of RM 3.5 billion and RM 4.3 billion in 2010 and 2011 respectively. The foreign visitor arrivals to Sarawak which comes from Middle Eastern indicates 2 071 thousands in 2010 and increase to 3 109 thousands in 2011.

Sarawak's approach to tourism is a calculated and holistic endeavour that is being delivered in stages to ensure that it is sustainable and on-going in the long term. Sarawak's government had convinced Middle Eastern tourists who visited Malaysia to include Sarawak in their plans by providing a way of building a holiday enclave that made them feel at home. A year before, Sarawak lacks the infrastructure to cater for Middle East tourists who have specific needs. However, recently the Sarawak government has paid more attention towards developing the infrastructure since it is the main point why Middle Eastern tourists come to Sarawak. The government wants these Middle Eastern tourists not only enjoy doing the things they like to do during vacations but also get to see the natural beauty and environment of Sarawak.

As reported in the Borneo Post newspaper dated September 26, 2011, Abang Johari said that the rainforests and Sarawak's multicultural society and heritage would always be its strength in terms of attracting tourists. With Sarawak targeting Gulf Cooperation Council (GCC) investors, he said Middle Eastern visitors need more. They preferred to travel in family groups and liked to eat Middle Eastern food. In addition, tourists from the Gulf countries were

not used to chilling out at a resort or hotel but they wanted to shop or visit an amusement park. Therefore, the resort province of Miri and greater Kuching area were ideal locations to build an enclave dedicated to Middle Eastern visitors. Fortunately, Sarawak is big and it provides enclaves for visitors from the Middle East, Chinese tourist and Western tourists, among others and these different market segments can interact with each other as well.

Therefore, in this study we intend to examine the impact of Middle East's tourist arrival towards economic growth in Sarawak which can further help our policy makers in determining measures to cope with the impact.

Objectives

The general objective of this research is to study the impact of Middle East's tourist arrival towards economic growth in Sarawak. The specific objectives are:

1. To investigate the relationship between Middle East's tourist arrival and economic growth in Sarawak
2. To investigate the relationship between exchange rate and economic growth in Sarawak
3. To investigate the relationship between government expenditure and economic growth in Sarawak.

Significance of the Study

This study intends to determine the causal relationship between Middle East's Tourist Arrival, exchange rate, government expenditure and economic growth in Sarawak. The benefits obtained can be viewed from various perspectives.

Government can gain benefits from this study as government can get some insight in the impacts of Middle East's tourist arrival, exchange rate and government expenditure and make some adjustments to increase the number of Middle East's tourist come to Sarawak as one of their place for vacation. The government plays an important role in increasing the tourism stability and increasing GDP growth. By getting the insight of the impacts of Middle East's tourist arrival, exchange rate and government expenditure towards economic growth in Sarawak, government can pursue on strategies to attract more Middle East's tourist arrivals come to Sarawak for vacation which gives greater impacts towards economic growth in Sarawak.

In the short term, government can think of new strategies on how to attract Middle Eastern tourists to visit Sarawak for vacation. However, in the long-term, the new strategies that developed by government will encourage more Middle East's tourist to come over Sarawak not only for vacation but for business matters, investments, travelling and shopping as well. It will give positive impacts on the economy growth in Sarawak which will eventually benefit all Sarawakians. By understanding the impacts of Middle East's tourist

arrival, exchange rate and government expenditure towards economic growth in Sarawak, the government can design appropriate policies to stabilize the tourism sector and encourage those tourists to not only come for vacation but encourage them to invest in Sarawak tourism sector since they are richer as compared to other tourists. This can help improve the economy growth and create job opportunities in Malaysia.

Scope of the Study

The scope of this research is to study about the impacts of Middle East's tourist arrival, exchange rate and government expenditure towards economic growth in Sarawak. This research is divided into five sections. Section one is the introduction of the study. Besides that, section two will discuss on the literature review of previous studies on impacts of tourist arrivals, exchange rate and government expenditure towards economic growth in other regions. Different methods will be further elaborated in explaining the empirical results. Section three will discuss the methodology used in analyzing the relationship between Middle East's tourist arrival, exchange rate, government expenditure and economic growth in Sarawak. Section four considers the empirical result and findings. Finally, section five presents the conclusion, recommendation and limitation of study.

LITERATURE REVIEW

Tourism is related to an activity done by an individual or a group of individuals which leads to a motion from a place to another. Malaysia sees tourism as a sector full of potentials to generate job and business opportunities but as a new entrant in the tourism world. Generally in Malaysia and particularly in Sarawak, both struggle to position itself in a region that shares identical cultures, heritage and natural environment. The main purpose of tourism is to maintain its position and competitiveness in this sector.

There are many studies conducted to study the impact of tourist arrival using different methods of estimation and models. We have tried to review relevant studies and we found that in general, impacts of tourist arrival towards economic growth are tourist arrivals, exchange rate and government expenditure.

Reviews on Tourist Arrival

They were a few studies that identified the relationship between tourist arrival and economic growth. Lau, Oh and Hu (2008) conducted a research to investigate the co-movements and the causality between tourist arrivals and economic growth in Sarawak. The period of study was from 1972 to 2004. Results from Augmented-Dickey Fuller test, Johansen co-integration test and Granger Causality test revealed that long run co-movement relationship between tourist arrivals and economic growth exists in Sarawak.

Durbarry (2004) used co-integration and causality tests to see the relationship between tourism and economic growth. The results revealed that tourism has promoted growth and gives a positive impact on Mauritian economic development. He also noticed that the more tourists arrive to Mauritius leads to the greater impact on Mauritian economic growth which definitely promotes its country as one of the favourite destination for vacation.

However, Kasimati (2011) conducted a research to analyze the role of tourism in the Greek economic growth that took the sample period of the study from 1960 to 2010. Results from Johansen co-integration test and Granger causality test revealed that no long-run equilibrium relationship between tourist arrivals and economic growth which means tourism is not driven economic growth to developing countries like Greece.

Reviews on Exchange Rate

Research on examining the relationship between exchange rate and economic growth had been done by previous researchers. McPherson and Rakovski (2000) conducted a research to examine the relationship between exchange rate and economic growth in Kenya for the sample period of 1970 to 1996. He found that exchange rate and economic growth has no statistically significant direct relationship. Ugurlu (2009) in his research to examine the relationship between exchange rate and growth in Turkey also stated that exchange rate from tourism shows insignificant relationship to determine the greater economic growth.

Both result found by them were also supported by Abounoori and Zobeiri (2010) in his research to examine the exchange rate gap effect on economic growth in Iran from sample period of the study from 1961 to 2007. A result from their Error Correction Model indicated that exchange rate and economic growth has a significant negative relationship.

However, Javeed and Muhammad Farooq (2009) and Tarawalie (2010) stated that a positive relationship exists between exchange rate and economic growth. Result from Granger causality in the research conducted by Tarawalie (2010) indicates that exchange rate causes growth in real gross domestic product (GDP) while Javeed and Muhammad Farooq (2009) in their theoretical model found that exchange rate has long-run positive relationship with economic growth. This study pointed out that tourism performance is very sensitive to the change in exchange rate volatility in the long-run period. Moreover, the higher arrival of tourists means they would spend more when they visit other countries and leads to greater performance in economic growth of that particular country.

Reviews on Government Expenditure

Olayinka (2008) studied the causal relationship between tourism spending and gross domestic product (GDP) in selected African countries during 1995-2004. By using Granger causality test, result revealed that there is a unidirectional causal relationship from real GDP to tourism spending. He pointed out that

income obtained from tourism industry did not have a significant effect on economic growth of the selected African countries.

The findings by Olayinka (2008) are also supported by Brida, Carrera and Risso (2008) in their research on investigating the long-run effect of tourism industry on economic growth in Mexico. Result from Granger causality test indicates that causality goes unidirectional from tourism spending and exchange rate to the real GDP. Both reviews pointed out that government expenditure on tourism sector has a positive impact on economic growth.

RESEARCH METHODOLOGY

Theoretical Framework

According to the objective of this research, the impact of Middle East tourist arrivals towards economic growth in Sarawak has to be analyzed. In order to accomplish the objective, another model was developed by considering other factors such as Middle East tourist arrivals, exchange rate and government expenditure. The model specifications can be represented by the following equation:

$$GDP = f(META, GE, ER) \quad (1)$$

where, GDP = Gross Domestic Product
META = Middle East Tourist Arrivals
GE = Government Expenditure
ER = Exchange Rate

The model specifications can be represented by the following equation:

$$GDP = \beta_0 + \beta_1 META + \beta_2 GE + \beta_3 ER + \mu \quad (2)$$

where, GDP = Gross Domestic Product
META = Middle East Tourist Arrivals
GE = Government Expenditure
ER = Exchange Rate

Equation for estimating tourism economic growth model is as equation:

$$LGDP = \beta_0 + \beta_1 LMETA_t + \beta_2 LGE_t + \beta_3 ER_t + \epsilon_t \quad (3)$$

where, LGDP = Log Gross Domestic Product (GDP)
LMETA_t = Log Middle East Tourist Arrivals
LGE_t = Log Government Expenditure
ER_t = Log Exchange Rate
 ϵ_t = Error Term

The rationale of the above mentioned independent variables to be used in this study is because they are the important variables that can affect economic growth in Sarawak. Lau et al. (2008) have studied the tourist arrivals and economic growth in Sarawak. They found that the long-run relationship between tourist arrivals and economic growth by using the Granger causality test. The result indicates that the continuous tourism development leads to economic growth.

Malik, Chaudry, Sheikh and Farooqi (2010) conducted a study to investigate the co-integration and causal relations among the tourism, economic growth and account deficit in Pakistan by using Johansen Co-integration technique and Error Correction Model (ECM). They found that there is a long-run relationship between the number of tourists and GDP growth through the channel of reduction in current account deficit. They noticed that tourism has a positive impact on the economic activity and hence the GDP growth of Pakistan. If tourist activities increase, the GDP growth rate improves via reduction in the current account deficit.

Furthermore, Kreishan (2010) examined the causality relations between tourism earnings and economic growth (GDP) for Jordan by using Augmented Dickey-Fuller (ADF) for unit root, Johansen and Juselius for co-integration and Granger Causality test for causal relationship. He found that there is a positive relationship between tourism development and economic development in the long-run. He noticed that there is a unidirectional causality from tourism earnings to economic growth. Government should focus on economic policies to promote international tourism as a potential source of economic growth in Jordan.

Conceptual Framework

The conceptual framework in this research is developed based on the objectives of the study. This research is to investigate the relationship between Middle East tourist arrivals, exchange rate, government expenditure and economic growth in Sarawak. Figure 1 shows the conceptual framework that had been developed.

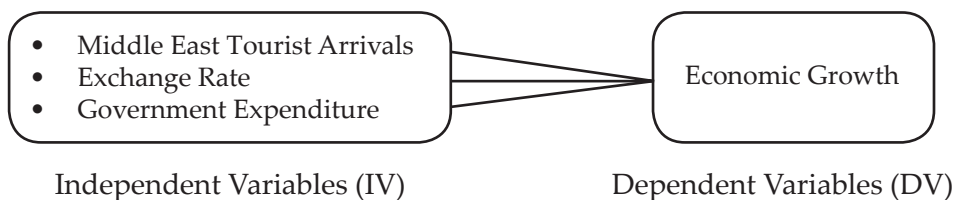


Figure 1 Conceptual Framework

DATA SAMPLE AND DATA COLLECTION

The data on Middle East's Tourist and economic growth of Sarawak in tourism sector from 1972 to 2011 were obtained from the Sarawak Tourism Board and the Sarawak Yearbook of Statistics respectively. However, the data of exchange rate was obtained from the Economagic.com: Economic Times Series Page (St. Louise).

METHODOLOGY

Augmented Dickey-Fuller (ADF) (1979) Unit Root Test ¹

The use of Dickey-Fuller tests, considered an AR (1) process first:

$$y_t = \mu + \rho y_{t-1} + \varepsilon_t \quad (1)$$

where, μ and ρ are parameters and ε_t are assumed to be white noise. If $|\rho| \geq 1$, y is a non stationary series and the variance of y increases steadily with time and goes to infinity. If $|\rho| < 1$, y is a (trend-) stationary series. Therefore, the hypothesis of (trend-) stationary series can be evaluated by testing whether the absolute value of ρ is strictly less than one. The null and alternative hypotheses for unit root are $H_0: \rho = 1$, $H_1: \rho < 1$.

The standard DF test is carried out by estimating an equation with y_{t-1} subtracted from both sides of the equation.

$$\Delta y_t = \mu + \gamma y_{t-1} + \varepsilon_t \quad (2)$$

Where, $\gamma = \rho - 1$ and null hypotheses are:

$$\begin{aligned} H_0: \gamma &= 0 \\ H_1: \gamma &< 0 \end{aligned} \quad (3)$$

The ADF evaluated using conventional t-ratio for γ :

$$t_\gamma = \hat{\gamma} / (se(\hat{\gamma})) \quad (4)$$

where $\hat{\gamma}$ is estimated of γ and $se(\hat{\gamma})$ is the coefficient standard error. Under the null hypothesis of a unit root, this statistic does not follow the conventional student's t-distribution (Dickey and Fuller, 1979). Dickey and Fuller (1979) derive asymptotic results and stimulate critical values for various tests and sample sizes. Furthermore, MacKinnon (1991) implement a large set of stimulation than Dickey and Fuller. He estimates surfaces for the stimulation results, permitting the calculation of Dickey-Fuller critical values and p -values for arbitrary sample sizes.

¹ The discussion in this section is adapted from EViews 5 User's Guide

The simple unit root test is valid if the series is an AR (1) process. The simple Dickey-Fuller unit root test is valid only for AR (1) process. If the series is correlated at higher order lags, the assumption of white noise disturbance ε_t is violated. The Augmented Dickey-Fuller (ADF) test makes a parametric correction for higher-order correlation by assuming that the y series follows an AR (q) process and adding p lagged difference terms of the dependent variable y to the right hand side of the regression:

$$\Delta y_t = \mu + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \delta_2 \Delta y_{t-2} + \dots + \delta_p \Delta y_{t-p} + \varepsilon_t \quad (5)$$

The augmented specification is used to test:

$$\begin{aligned} H_0 : \gamma &= 0 \\ H_1 : \gamma &< 0 \end{aligned} \quad (6)$$

Fuller obtained important results that asymptotic distribution of the t -ratio for γ is independent of the number of lagged first difference included in ADF regression. In addition, the assumption y follows an autoregressive (AR) process may seem restrictive. As pointed out by Said and Dickey (1984), the ADF test is asymptotically valid in the presence of a moving average (MA) component and provides the sufficient lagged difference terms are included in the test regression.

Johansen and Juselius (1990) Co-integration Test

According to Dritsakis (2004, p.114), if time series variables are non-stationary in their levels, they are integrated (of order one) and their first differences are stationary. These variables can be co-integrated if there is one or more linear combinations among them are stationary. If these variables are co-integrated then there is a stable long run or equilibrium linear relationship among them.

Granger (1986, p.226) mentioned that 'a test for co-integration can thus be thought of as a pre-test to avoid "spurious regression" situations'. Engle and Granger (1987, p. 264) have prescribed that 'it may not be so easy to test whether a set variables are co-integrated before estimating a multivariate dynamic model'.

Co-integration and error correction models are closely related. Engle and Granger (1987, p. 254) pointed out that error correction as a 'proportion of the disequilibrium from one period is corrected in the next period. An error correction model relates the change in one variable to past equilibrium errors'.

Co-integration test is performed when the hypothesis of a unit root is not rejected. The hypothesis test is null of non-cointegration against the alternative of co-integration by using Johansen's maximum likelihood method. A vector aggression approach is used to model each variable which is assumed to be jointly endogenous as a function of all the lagged endogenous variables in the

system. Johansen (1988) has pointed out a simple case where X_t is integrated of order one, such the first difference of X_t is stationary. The process X_t is defined by an unrestricted VAR system of order $(n \times 1)$.

$$X_t = \pi_1 X_{t-1} + \pi_2 X_{t-2} + \dots + \pi_k X_{t-k} + u_t \quad (7)$$

Where, $X_t = (n \times 1)$ vector of $I(1)$ variables $\pi_i = (n \times n)$ matrix of unknown parameters to be estimated $(i = 1, 2, 3, \dots, k)$. u_t the independent and identically distributed $(n \times 1)$ vector of error terms $t = 1, 2, 3, \dots, m$ observations. $\Delta = (I - L)$, where L is the lags operator the system of above can be reparameterized in the error correction form as

$$\Delta X_t = \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} + \pi X_{t-k} + u_t \quad (8)$$

where ΔX_t is an $I(0)$ vector. I is an $(n \times n)$ identity matrix $\Gamma_i = \sum_{j=1}^{k-1} \pi_j - I$, $i=1, 2, \dots, k-1$ and $\pi = \sum_{j=1}^{k-1} \pi_j - I$.

The equation (8) is a vector error correction (VER) model. The $(n \times n)$ matrix π can be written the product of α and β equal to matrix weighing elements. The above equation can be written as $\Delta X_t = \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} + (\beta\alpha')X_{t-k} + u_t$.

The testing hypothesis of r co-integrating relations among the elements of X_t by using maximum likelihood approach.

$$H_0 : \pi = \beta\alpha'$$

The null hypothesis of no co-integrating relations ($r = 0$) implies $\pi = 0$. The test for co-integration test whether the eigenvalues of the estimated π are significantly different from zero. This approach test the number of co-integrating relations where $0 \leq r < n$. No linear combination of $nI(1)$ variables is stationary, if there is no co-integrating relation. The likelihood function of X_t , conditional on any given α , by using standard least squares formulae for the regression of ΔX_t on the lagged differences $\Delta X_{t-1}, \Delta X_{t-2}, \dots, \Delta X_{t-k} + 1$ and $\alpha' X_{t-k}$. This approach provides estimates of $\Gamma_1, \Gamma_2, \dots, \Gamma_{k-1}$ and β conditional on α and test co-integrating vectors are statistically significant.

Granger Causality Test

Granger causality test is pioneered by Engle and Granger (1987) and Granger (1986). This test whether the two variables are co-integrated in either direction. As long as the variables share a common trend, causality must exist in at least one direction (Granger, 1986). Although, co-integration only indicates the presence of Granger-causality, it does not indicate the direction of causality between variables where this direction can be detected through the vector error correction model derived from the long run co-integrating vectors.

Research Hypotheses

The hypotheses for this research are based on the objectives of the study and the conceptual framework. The null hypotheses are shown in Table 1.

Table 1 Research Hypotheses

Ho	Hypotheses
Ho1	Middle East tourist arrivals do not Granger cause economic growth
Ho2	Economic growth does not Granger cause Middle East tourist arrivals
Ho3	Exchange rates do not Granger cause economic growth
Ho4	Economic growth does not Granger cause exchange rates
Ho5	Government expenditures do not Granger cause economic growth
Ho6	Economic growth does not Granger cause government expenditures

EMPIRICAL RESULTS AND DISCUSSIONS

Augmented Dickey-Fuller (1979) Unit Root Test Results

The stationary of the time series data need to be tested before determining the suitable approach in analyzing the data so as to eliminate superior problem in regressions when using non-stationary time series. The null hypothesis under the Augmented Dickey Fuller (ADF) unit root test in a series is stationary as compared to the alternative of stationarity. The optimal lag length is chosen based on Schwarz Information Criterion (SIC).

According to the result shown in Table 2, ADF tests for all the variables GDP, META, GE and ER fail to reject the unit root null because the test statistic for all three variables are smaller than the critical value. However, when ADF were applied in first difference forms the all test statistic greater than the critical value at 5 percent level of significant. All the GDP, META, GE and ER are stationary indicating that the variables are in fact integrated of order one, I (1). Therefore, we proceed to Johansen and Juselius Co-integration test as all variables are stationary.

Table 2 Unit Root Tests

	ADF Intercept	ADF Trend & Intercept
	Level	
LGDP	-0.952(0)	-2.351(0)
LMETA	-0.882(0)	-3.057(0)
LGE	-1.101(0)	-2.551(0)
ER	-1.159(0)	-2.141(0)
	First Differences	
Δ LGDP	-6.413 (0)**	-6.376 (0)**
Δ LMETA	-6.593 (0)**	-6.502 (0)**
Δ LGE	-5.977 (0)**	-5.807 (0)**
Δ ER	-5.470 (0)**	-5.376 (0)**

Notes: Asterisks (**) indicate statistically significant at 5 percent level. The asymptotic and finite sample critical values for ADF are obtained from MacKinnon (1996). Lag length for the ADF have been chosen on the basis of Schwarz's Information Criteria (SIC). The ADF test examines the null hypothesis of a unit root against the stationary alternative. \odot denotes first difference operator.

The result of the Johansen and Juselius (1990) co-integration test is shown in Table 3. Johansen cointegration was applied in this study to test for the long run equilibrium between the GDP, META, GE and ER. The Johansen procedure employs two likelihood ratio (LR) test statistics to determine the number of co-integrating vector which the trace test and maximal eigenvalue (l-max) test. The result is evident in Table 4, all the null hypothesis cannot be rejected at the 5 percent significance level with the trace test is less than the critical value. There are zero co-integration vectors in this test. The max-eigen test also cannot reject the null hypothesis in 5 percent significance level with max-eigen test is less than critical value. Therefore, there is no long run relationship exists between GDP, META, GE and ER.

Table 3 Johansen Co-integration Test

Null	Alternative	k=1, r=0			
		Trace		λ max	
		Unadjusted	95% C.V.	Unadjusted	95% C.V.
r = 0	r = 1	46.705	47.856	26.217	27.584
r ≤ 1	r = 2	20.488	29.797	14.529	21.132
r ≤ 2	r = 3	5.959	15.495	5.956	14.265
r ≤ 3	r = 4	0.003	3.841	0.003	3.841

Notes: Asterisks (*) denote statistically significant at 5 percent level. The k is the lag length and r is the cointegrating vector(s). Chosen r : Number of cointegrating vectors that are significant under both tests.

No co-integration vector found in the system is means the relationship between GDP, META, GE and ER happen in the short run only. Since there is no co-integration vector found in the system, the VAR Granger causality model is adopted to examine which variable granger cause other variables in the short run.

The results of VAR Granger Causality test as shown in Table 4 shows that GDP cause both GE and ER in the short run unidirectional respectively. While the META granger cause to GDP and GE in unidirectional in the short run respectively. This is clearly shown with the insignificant χ^2 statistic and the p-values, which the probability respectively less than 1 percent, 5 percent and 10 percent level of significance.

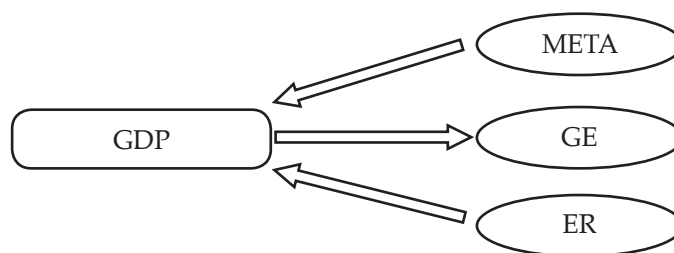


Figure 2

Figure 2 shows the relationship between GDP, META, GE and ER in the short run. Middle East's tourist arrival come to Sarawak causes government expenditure of tourism spend more, besides cause the GDP in Sarawak. In the short run, GDP also cause the government expenditure and exchange rate in Sarawak.

Table 4 VAR Granger Causality Result

Dependent variables	Δ LGDP	Δ LMETA	Δ LGE	Δ ER
	χ^2 -statistic (p-value)			
Δ LGDP	-	4.858 (0.088)***	3.717 (0.156)	0.664 (0.718)
Δ LMETA	0.230 (0.891)	-	0.022 (0.989)	0.926 (0.630)
Δ LGE	7.623 (0.022)**	12.875 (0.002)*	-	4.050 (0.132)
Δ ER	4.716 (0.095)***	2.974 (0.226)	1.739 (0.419)	-

Note: The χ^2 -statistic tests the joint significance of the lagged values of the independent variables; the significant of the error correction term (s) D is the first differences operator. Asterisks (***) indicate statistically significant at 10 percent level, (**) indicate statistically significant at 5 percent level and (*) indicate statistically significant at 1 percent level. LGDP = Gross Domestic Products, LMETA = Middle East's Tourist Arrivals, LGE = Government Expenditure and ER = Exchange Rate.

CONCLUSIONS AND RECOMMENDATIONS

Tourism as an economic activity of primary value and importance for many countries is an accepted for all. Sarawak especially saw in tourism as a sector that could potentially cover their needs in foreign currency. The contribution of the tourist sector is beneficial for Sarawak's economy due to its influence on sectors other than foreign exchange sector.

Many researches done by previous researcher stated that tourism development is not only benefit to foreign exchange income. It also creates other benefits such as job opportunities. This is clearly supported by Lee and

Chang (2008) that tourism development not only increases foreign exchange income but also creates employment opportunities which stimulate the growth of the tourism industry and triggers overall economic growth. Therefore, tourism development has become as an important target for most governments worldwide like Sarawak to attract more Middle East's tourists to come to Sarawak either for vacation or business trip.

This study is conducted to investigate the impact of Middle East's tourist arrival towards economic growth in Sarawak which involved independent variables such as Middle East's tourist arrival, government expenditure and exchange rate. The time series data are collected from the period of 1972 to 2011. This study used Augmented Dickey-Fuller (ADF) unit root test, Johansen and Juselius co-integration test and VAR Granger causality test to examine the relationship between the variables under this study.

The Augmented Dickey-Fuller (ADF) unit root test results show that all variables are non-stationary in levels but are stationary in first difference. Besides that, the result of the Johansen and Juselius (1990) co-integration test shows that the null hypothesis of the non-co-integration is not rejected by both of the trace and maximum eigenvalues tests at the 5 percent significance level. We can conclude that a short-run relationship exists between these variables. This result is same with Kasimati (2011) where the researcher also found that there is no long-run equilibrium relationship between tourist arrivals and economic growth in Greece. Since the results show short-run relationship, this study is carried on to VAR Granger causality test. The VAR system is preceded because there is no short run relationship in the co-integration test.

Recommendations

Sarawak has experienced quite a number of Middle East's tourist arrival since 1970s. The government plays an important role in increasing the economy stability by increasing GDP growth in Sarawak. By getting the insights on the impact of Middle East's tourist arrival, government can pursue strategies to highlight the impact of it towards economic growth in Sarawak. Therefore, the government will be able to spot the factors namely Middle East's tourist arrival, government expenditure on tourism and exchange rate and vividly observe the impact towards economic growth. According to Lau et al. (2008), the development of tourism sector will also contribute to the development of other related industries. Causality experiment pointed out there is a unidirectional relationship exists between Middle East's tourist arrivals and government expenditure on tourism which means a continuous Middle East's tourist arrivals come to Sarawak will urge the government to spend more on tourism. Middle East's tourist arrivals also lead to economic growth in Sarawak where they can contribute to nation income in the short run. This shows that tourism should be developed more which will lead to expansion in the economic growth in Sarawak. This supports the general consensus that tourism development acts as an engine of economic growth for Sarawak.

On top of that, unidirectional relationship exists in GDP to exchange rate and GDP to government expenditure on tourism in the short run. This indicates that the increasing in economic growth will increase the value of currency and lead the government expenditure to increase further. Therefore, the government should play an important role to boost up our economic activities which will greatly impact to the currency rate.

Undeniably, the government and its citizen should work together in order to make sure that the tourism sector will expand tremendously over the year. The encouragement and financial support from the government agency as well as the arrival of Middle East's tourists into Sarawak would increase in a consistently each year. It is not only focused on these two factors, the government should be aware of currency rate which definitely influence the tourism sector directly. Sarawak Tourism Board for instance, should work closely with players of the tourism industry to expand their promotion and the most important part is they should develop their products and services in meeting the expected influx of Middle East's tourists into Sarawak. By doing this, they will be able to bring Sarawak in the eyes of the world.

LIMITATIONS OF THE STUDY

This study is useful for government to cope with the problems that exist in the Sarawak tourism sector. There are many external factors from tourism industry which affects the economic growth in Sarawak. Therefore, other factors such as political risk, inflation and others should be taken into account in order to precisely test the impact towards economic growth.

Besides that, only a few studies were conducted previously in other regions of the country. There is a lack of investigation on the impact of Middle East's tourist arrival towards economic growth in Sarawak and other states in Malaysia as well. There are not many researchers who investigated the impact of Middle East's tourist arrival towards economic growth in Sarawak.

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