

The Effect of Tourism Sectors on ASEAN Countries' Economic Growth: Analysis Panel Regression

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Abstract: Tourism industry has been an interesting phenomenon for the countries in ASEAN region because tourism sector may give a large contribution for ASEAN countries' GDP. The greater the GDP, the better economic condition of a country where the GDP itself can be obtained from some sectors and one of them is tourism sector. By knowing the importance of tourism sector to ASEAN economic, then the countries in ASEAN region are able to do some acts which are needed to support tourism sector becoming more interesting and more adequate. Therefore, this research is done to examine the effect of tourism sector which can be separated into tourist arrival and tourism receipts on ASEAN countries' GDP. The data were from year 2011 until 2015 and the method is analysis panel regression. The result of this research is expected to answer: 1). The effect of tourist arrival and tourism receipts on ASEAN countries' GDP. 2). Then, the result of this research is as well as to prove that tourism sector affects ASEAN countries' GDP simultaneously.

1 INTRODUCTION

Every country is willing to increase the growth of national output in a certain period (Rahardja and Manurung, 2004). Hence, the number of national output may represent some important things in economic sector. National output may be obtained from some sectors and one of them is from tourism sector. Tourism industry is so important for the countries in ASEAN region because most of them have many magnificent places.

The growth of ASEAN tourism in the last years is very high. This thing can make the economic climate among the member countries of ASEAN getting better. According to the World Economic Forum (WEF) in 2011, tourism sector provides 4.6 percent to ASEAN countries' GDP (Moenir, 2017). For Asia Pacific region, United Nation World Tourism Organization (UN-WTO) states that Southeast Asia is the region that is most closely visited by international tourist.

Each country in ASEAN will seek to increase its GDP because it indicates a good economic condition is happening in that country. However, ASEAN countries' GDP always changes. The changing of GDP in ASEAN countries can be predicted by knowing tourism indicator. The indicator can be

separated into tourist arrival and tourism receipts (Phiri, 2015). The stakeholders in ASEAN countries especially their government is able to see an indication of changing tourist arrival and tourism receipts in order to make them setting the right policies to increase their own GDP.

The growth of tourist arrival in ASEAN countries continues to grow. Even by looking at CAGR, ASEAN is one of the regions that sustain the highest growth from the tourist arrivals aspect from 2010 until 2014, as seen in figure 1.

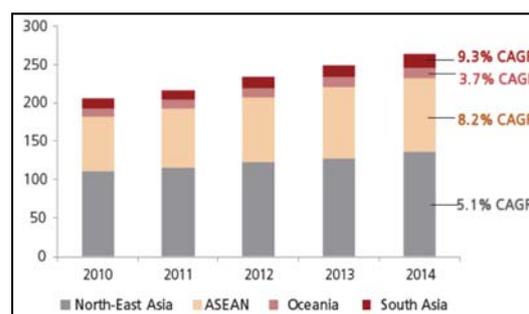


Figure 1: Growth of Tourist Arrivals from 2010-2014.

The tourism receipts in ASEAN countries continue to grow as well. In 2015, tourism receipts contribute 12.4% to GDP in all ASEAN countries. In

fact, tourism receipts keep growing during 2000 until 2015 in ASEAN countries as seen in figure 2.

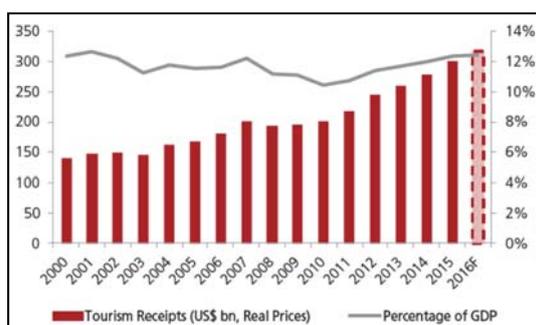


Figure 2: Tourism's Contribution to ASEAN's GDP from 2000-February 2016.

The previous research has examined the effect of tourist arrival and tourism receipts on GDP of a country. Phiri (2015) tests the effect of tourist arrivals and tourism receipts on economic growth in South Africa. His empirical result shows the linear framework may support the economic growth of South Africa driven by tourist arrivals and tourist receipts during 1995 until 2014.

Kum et al., (2015) state that tourist arrival gives positive impact to GDP. From their research using DOLS and FMOLS methods, they found that one percent increase in tourist arrivals stimulates GDP to raise 0.06 percent as a result of DOLS, and GDP to raise 0.08 percent as a result of FMOLS.

According to Gramatnikovski et al., (2016), tourism receipts can have a significantly positive effect on the growth of the economy. From that research, the greater the revenues from the expenditures by international inbound visitors, including payments to national carriers for international transport are, the greater the impact they will have on the country's GDP.

By looking at the phenomenon, the countries in ASEAN must increase their GDP which can be known from the effect of tourist arrival and tourism receipts. Then, this research is going to examine the effect of tourism sector on ASEAN countries' GDP. Hereafter, the aims of this research are: 1). To examine the effect of tourist arrivals and tourism receipts on ASEAN countries' GDP partially, and 2). To examine the effect of tourism sectors on GDP of ASEAN countries simultaneously.

2 LITERATURE REVIEW

According to the Keynesian theory of multiplier, eco-

nomical growth and tourism are related to each other (Kum et al., 2015). Economic growth can be led by international tourism through the multiplier. In inviting the international tourists, the government in a country will increase the expenditures such as spending for employment, costs for infrastructure, and so on. The expenditures can positively affect the economic cycle because they increase the rate of consumption and investment. This process is said as multiplier effect.

There have been some other examinations to test the effect of tourism industry on some countries' economic growth. Brida et al., (2009) investigate the contribution of tourism to economic growth in Colombia. The result is international tourism can be a strategic factor for long-run economic growth for Colombia. Proenca and Soukiazis (2005) also examine the impact of tourism on income growth of Portuguese regions. Phiri (2015) for South Africa and Tosun (1999) for Turkey have also found empirical support that tourism may affect the economic growth.

This research examines the impact of tourism sectors on ASEAN countries' economic growth from 2011 until 2015. Tourism sectors can be measured into some empirical measures. According to Phiri (2015), the empirical measurement of tourism can be used, namely; tourist receipts and number of international tourist arrivals. Another approach that examines tourism sectors into receipts from tourism and international tourist is done by Fayissa et al (2008). Later, tourism sectors of this research can be divided into tourist arrivals and tourism receipts.

The effect of tourist arrivals and tourism receipts on economic growth has been examined by some previous researches as mentioned below.

2.1 The Effect of Tourist Arrivals to Economic Growth

Tourist arrivals are captured by the annual arrivals of international tourists, defined as people who travel to a country other than that in which they usually reside (Ivlevs, 2017). The effect of tourist arrivals on economic growth has been examined by some previous researches. Tourist arrivals inflate the cost of housing and retail prices in the area, especially on seasonal basis (Fawaz and Rahnama, 2014). When the cost of retail prices and housing getting increase, it shows that the economic condition in a country is getting better.

When investments in public sector are rising, positive externalities which are related to technology and information will be built because of increasing tourist arrivals in the long term (Kum et al, 2015).

Those infrastructures arising are happened because of increasing tourist accommodation that required financing requirements. The construction of technology and information infrastructure will make the growth in economic.

On the other hand, Lucas (1988) explores the cause of productivity growth may not be explained by tourist arrivals. The result found that the potential for productivity growth is less in a sector such as tourism than it is in manufacturing. Means, the terms of manufacture effect will be sufficient to outweigh the impact of lower tourist arrivals in influencing economic growth. Another research also finds tourist arrivals can't be used to explain economic growth (Lanza et al., 2003).

2.2 The Effect of Tourism Receipts to Economic Growth

Tourism receipts means expenditure of international inbound visitors including their payments to national carriers for international transport, including pre-payments made for goods or services received in the destination country (UN-WTO, 2006). Means, the visit of international tourists to a country may not be interpreted as tourism receipts as long as they do not consume. Nevertheless, if they do consumption activities, it can be interpreted as tourism receipts because of their consumption actions.

Previous researches have examined the effect of tourism receipts to economic growth. The result of Gramatnikovski et al., (2016) shows the correlation index is determined to 0.8563 which is enough to claim that there is connection between the international tourism receipts and GDP in Republic of Macedonia. The research indicates more so the greater the revenues from the expenditures by international inbound visitors, including payments to national carriers for international transport are the greater the impact they will have on the country's GDP.

Tourism receipts can be used to import capital goods which then can be used to produce goods and services and eventually, it leads to economic growth in the host country (Brida et al., 2014). Another research also states that GDP can response from tourism receipts. Aslanturk et al., (2011) found that GDP responds tourism receipts positively in early 1980's. Empirical evidence from Fayissa et al., (2008) shows evidence of tourism receipts having a positive contribution to the output and economic growth of the selected Sub-Saharan African countries.

3 RESEARCH METHODOLOGY

The population in this research is in the form of countries registered in The United Nations (UN) from period 2011-2015. Criteria for sampling can be done by categorizing the countries in ASEAN during the research period. The countries, which fit the criteria based on the research sample are Indonesia, Philippines, Malaysia, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, and Cambodia.

The dependent variable of this research is GDP in ASEAN countries while the independent variables are the tourist arrivals and the tourism receipts from those ASEAN countries. The period in this research is from 2011-2015, therefore, the data is in the form of panel data. The data is in a form of secondary data. Hence the data can be compiled from The World Bank's data.

The research applies panel data regression method where panel data is a combination of time series and cross-section. The test with panel regression method can be done by selecting three role models and they are: Common Effect Model or Pooled Least Square, Fixed Effect Model, and Random Effect Model (Gujarati, 2003).

As a common, a model of panel regression method can be formulated as follows (Nachrowi and Usman, 2006):

$$GDP_{it} = \alpha + \beta TA_{it} + \beta TR_{it} + \varepsilon_{it} \quad (1)$$

Where:

- i = 1, 2, ..., N
- t = 1, 2, ..., T
- α = Coefficient of intercept (Constant)
- β = Coefficient of slope
- TA = Tourist Arrivals
- TR = Tourism Receipts
- ε = error term

4 EMPIRICAL RESULTS

Panel regression can be performed by determining 3 main models as follows: Common Effect, Fixed Effect, and Random Effect (Gujarati, 2003). There are two ways to determine the most appropriate model in estimating panel data parameters. Those two ways are Chow Test and Hausman Test (Gujarati and Porter, 2013).

According to the Chow Test and Hausman Test of this research, Fixed effect Model (FEM) is undertaken for panel data regression. FEM of this research can be seen in table 1.

Table 1: Fixed Effect Model Result.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2005.327	4.057822	494.1881	0.0000
TA?	0.003547	0.023437	0.151338	0.8805
TR?	0.716217	0.249981	2.865085	0.0068

Cross-section fixed (dummy variables)			
R-squared	0.383921	Mean dependent var	2013.000
Adjusted R-squared	0.205582	S.D. dependent var	1.428571
S.E. of regression	1.273287	Akaike info criterion	3.526644
Sum squared resid	61.60790	Schwarz criterion	3.985530
Log likelihood	-76.16611	Hannan-Quinn criter.	3.701390
F-statistic	2.152763	Durbin-Watson stat	0.885463
Prob(F-statistic)	0.039627		

Source: e-Views, data processed 2018

Based on the table 1, the variable of tourist arrivals (TA) has the p-value 0.8805. It means that the p-value for TA (0.8805) is greater than the significance level (0.05) which is TA is not valid in explaining the economic growth during the research period. The result is the same like the conclusion of Lanza et al., (2003). They state that tourism for a broad cross-section of countries may be correlated with human capital, geographic or cultural features, for instance, but may not be an independent determinant of economic growth.

Oh (2005) also rejects tourism-led economic growth hypothesis. In his research, Oh applies South Korea data during period 1975-2001 as a destination for comparison. The result concludes that international tourist arrival may not affect South Korea's GDP in the long run as long as tourism facilities are not supported. Lucas (1988) also stated productivity growth may not be explained by tourist arrivals because manufacture effect will be more sufficient in explaining economic growth than tourism effect.

The variable of tourism receipts (TR) has the p-value 0.0068 according to table 1. If it is compared to the significance level in 0.05, it means tourism receipts variable is valid to explain the economic growth in ASEAN countries during the research period. Aslanturk et al., (2011) concluded that GDP responds tourism receipts positively in early 1980's. According to Fayissa et al., (2008), a 10 percent increase in the tourism receipts of a typical African economy would result in a 0.3 percent increase in the average per capita income.

The result of Gramatnikovski et al., (2016) indicates more so the greater the revenues from the expenditures by international inbound visitors, including payments to national carriers for

international transport are, the greater the impact they will have on the county's GDP. It means that the increasing consumption rate of international tourists can contribute to the amount of GDP in the ASEAN countries.

From the table 1 can be seen that prob (F-statistic) is 0.039627 which means smaller than significance level at 0.05. This means tourist arrivals and tourism receipts, when considered as tourism sectors or considered as simultaneously, can explain the change of GDP in ASEAN countries. From the result of panel data regression in table 1 can be seen that determination coefficient (R^2) is 0.205582 or 20.6%. Means, tourism sectors can contribute the change of GDP in ASEAN countries at 20.6% while the rest is explained by the other factors in out of research.

5 CONCLUSION AND IMPLICATION

5.1 Conclusion

The countries in ASEAN could improve their GDP by raising their revenue from tourism. The increasing of tourism receipts can stimulate the government in the ASEAN countries to increase the expenditures such as spending for employment, costs for infrastructure and so on. The expenditures happened can make the economic growth positively. This is in accordance with the theory of the Keynesian theory of multiplier. Tourism receipts can make multiplier in the form of expenditures and finally, in the economic growth.

The government in the ASEAN countries should also pay attention that tourist arrivals not necessarily help the economy in their country. The international tourist arrivals may not necessarily indicate that they will have high levels of consumption in the countries where they visit. The things that must be noticed is how to increase the level of international tourist arrivals consumption so that tourism receipts can also increase, which eventually GDP in ASEAN countries increase as well.

However, tourism sectors can contribute 20.6% which is the government in ASEAN countries has to pay more attention in the development of their tourism sector. This means that the government in ASEAN countries can improve their economic growth performance by strategically harnessing the contribution of tourism industry.

5.2 Implication

The ASEAN countries should improve their facilities and infrastructures which could support their tourism sectors. To increase tourism sectors, the government in ASEAN countries could do several things, for instance, providing the cheap integrated transportation and hotels, having interesting tourism spots that can be accessed easily and so on. Those things can stimulate the international tourist not only visit the ASEAN countries, but also stimulate them to increase their consumption level when visiting ASEAN countries.

The economic performance in ASEAN region during research period 2011-2015 could be affected by tourism sectors about 20%. Means, the countries in ASEAN region after entering the MEA era in early 2016 should be able to further increase the contribution of their tourism sector to the economic growth. They do not only provide the easy access for citizens in ASEAN countries to obtain visa freedom (single visa), but they also have to create tourism program regularly with the fellow countries in ASEAN region. For instance, Indonesia and Myanmar create sister city program for Yogya and Mandalay where this program can stimulate the citizen between those two countries to visit one another.

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