

The role of tourism toward economic growth in the local economy

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Article Info

Article history:

Received : 1 April 2017

Accepted : 25 February 2018

Published : 6 March 2018

Keywords:

tourists, investment of tourism, government spending of tourism, and economic growth.

JEL Classification:

H76, L83, O40, R53

DOI: [10.20885/ejem.vol10.iss1.art4](https://doi.org/10.20885/ejem.vol10.iss1.art4)

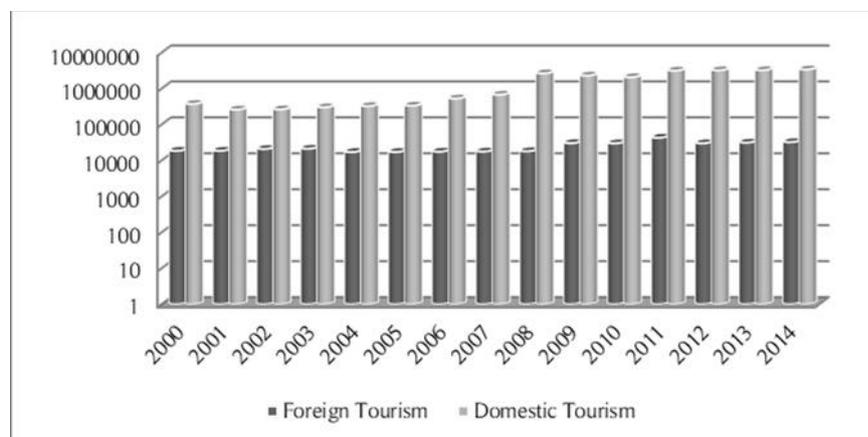
Abstract

This study analyzes the relationship between the number of tourists, tourism investment, government tourism spending, and economic growth in South Sumatra. It uses Granger causality model and simultaneous equation model to estimate the empirical model. The findings show that the number of tourists, the added value of the tourism sector, and the tourism spending of the tourism sector affect economic growth, while tourism investment does not affect the economic growth. In the second model, this study found that economic growth, tourism added value, tourism, and government tourism spending affect the number of tourists. This study implies that government policy has an important role in encouraging the tourism sector development which is indicated the contribution this sector on economic growth.

Introduction

Indonesia's economy is still dominated by primary sector that utilizes natural resources, such as agriculture, forestry, fisheries, and mining (Chakravarty, Ghosh, Suresh, Dey, & Shukla, 2012; Hilmawan, Yudaruddin, & Wahyuni, 2016). Natural resources owned by Indonesia are potential in creating economic activity that can provide significant added value. However, Indonesia also has a sizeable population of the fourth-largest in the world. Moreover, Indonesia has abundant natural resources and diverse culture, so it has a great potential to be an attraction for the tourism sector (Lewis, Simons, & Fennig, 2015). Potential of tourism has future hopes to become one of the sectors that can contribute to economic growth.

The tourism sector can involve all layers of the population indicating that all of the community can participate in the realization of the tourism development (Basiago, 1999; Yunis, 2009). Therefore, the government needs to provide more intensive attention in supporting this sector (Curristine, Lonti, & Joumard, 2007). Currently, tourism in Indonesia ranks fourth regarding acceptance of foreign exchange after oil and natural gas and palm oil. Based on the data from 2014, the number of international tourists who come to Indonesia by 9.4 million, or grew by 7.05% compared to the previous year.



Source: South Sumatra in figures 2016

Figure1. The number of foreign and domestic tourists visits to South Sumatra

Eleven provinces that are most frequently visited by the tourists are Bali with approximately more than 3.7 million tourists, followed by Jakarta, Yogyakarta, East Java, West Java, North Sumatera, Lampung, South Sulawesi, South Sumatera, Banten, and West Sumatera (Lewis et al., 2015). Sumatera island became one of the tourist destinations to see the natural beauty and diversity of cultures. The island of Sumatera has a variety of national parks, which can be a natural tourist destination in Indonesia (Lewis et al., 2015).

The number of tourist arrivals is very beneficial for both the government and private sectors related directly or indirectly to tourism. Accommodation establishments and tourist services such as hotels, restaurants, travel agencies and travel, recreation, amusement parks, business results of the industry, and even the historic sites of South Sumatera province will benefit from the tourist visits. In general, an increase in the number of tourists coming to South Sumatera Province will add jobs to the community and improve the economy of South Sumatera Province.

The average growth of tourist arrivals in the period 2000-2014 shows a positive figure. The average growth of foreign tourist visits is 6.25% while for domestic tourists is amounted to 29.37%. That the increase in the number of tourists coming into South Sumatera showing that it is increasingly in demand as a tourist destination for both overseas and domestic tourists. The development of the tourism sector is a strategy used to promote and improve the condition of tourism and tourist attractions as well as to give benefits to the community around the attraction and government (Csapo, 2012). Economically, the number of tourist arrivals is very beneficial will absorb jobs to the community and improve the economy (Chang, Khamkaev, & McAleer, 2010; Dritsakis, 2009). Furthermore, the tourism sector is an important sector in the world economy, as millions of tourists travel to different areas, domestic and international tourist arrivals affect the country's income level (Li, Mahmood, Abdullah, & Chuan, 2013).

This study wants to determine and investigate the relationship between the variables of tourism and economic growth in South Sumatera. The contribution of this research, first, the model in this study into an empirical study of economic growth models driven by the development of tourism potential; Second, the development of the theoretical study of fiscal and investment policy in Indonesia. The tourism has a positive impact on economic growth that comes from research on the case of one country and studies based on a large number of countries. Other studies such as Brida, London, & Rojas (2013); Brida, Rizzo, Lanzilotta, & Lionetti (2010); Caglayan, Pak, Karymshakov, Çaglayan, & Sak (2012); Cortes-Jimenez, Pulina, Prunera, & Artis (2009); Li et al. (2013); Phiri (2016) mention the same results.

The next section presents the research method and model specifications of this study. The third section gives the estimation results for all models and explores of the result and present empirical estimates of the implications of this research. The last section concludes.

Research Methods

The research data was using secondary data published by the Central Bureau of Statistics (BPS) of South Sumatera Province. The data includes GDRP, the number of tourists (NT), investment of tourism (INV), and government spending on tourism (ETS). Research data period of 2000-2015. The data are in log form with % as the number and rupiah.

Research methods use Granger causality test and simultaneous equation model. The Granger causality test refers to Granger (1988); White & Petteuzzo (2010). Meanwhile, the simultaneous equation model use of the two-stage least square method (2SLS) requires some classical assumptions that must be met by error components in the model produced. Some assumption is among others that error must meet the assumption of multicollinearity, homogeneity, and does not contain any autocorrelation (Myers, 1990). The model Granger causality can be seen as follows:

$$NT_t = \sum_{j=1}^m a_j NT_{t-j} + \sum_{j=1}^m b_j GDRP_{t-j} + \varepsilon_t \quad (1)$$

$$GDRP_t = \sum_{j=1}^m c_j GDRP_{t-j} + \sum_{j=1}^m d_j NT_{t-j} + \theta_t \quad (2)$$

$$INV_t = \sum_{j=1}^m e_j INV_{t-j} + \sum_{j=1}^m f_j GDRP_{t-j} + \mu_t \quad (3)$$

$$GDRP_t = \sum_{j=1}^m g_j GDRP_{t-j} + \sum_{j=1}^m h_j INV_{t-j} + \varepsilon_t \quad (4)$$

$$ETS_t = \sum_{j=1}^m i_j ETS_{t-j} + \sum_{j=1}^m k_j GDRP_{t-j} + \epsilon_t \quad (5)$$

$$GDRP_t = \sum_{j=1}^m l_j GDRP_{t-j} + \sum_{j=1}^m m_j ETS_{t-j} + \pi_t \quad (6)$$

The simultaneous equation model can be seen as follows:

$$\text{LN GDRP}_t = \alpha_{10} + \alpha_{11} \text{LN NT}_t + \alpha_{12} \text{LN VAT}_t + \alpha_{13} \text{LN INV}_t + \alpha_{14} \text{LN ETS}_t + \epsilon_{1t} \quad (7)$$

$$\text{LN NT}_t = \gamma_{20} + \gamma_{21} \text{LN GDRP}_t + \gamma_{22} \text{LN VAT}_t + \gamma_{23} \text{LN INV}_t + \gamma_{24} \text{LN ETS}_t + \epsilon_{2t} \quad (8)$$

where: NT is the number of tourists; INV is investment tourism sector, and GDRP is the gross domestic, regional product; VAT is value-added of tourism; ETS is the government spending of the tourism sector in South Sumatera province.

Results and Discussion

In the contribution of tourism to economic growth, the tourism sector has increased significantly each year. It can be seen from the contribution of trade, hotels, and restaurants in the year 2000-2015 with an average of 13.64%. That shows that this sector can be one of the leading sectors that can contribute significantly to the economy. In 2015, the contribution of this sector was quite substantial, at 45.85%. The increase is also accompanied by a growing number of five-star hotels. With the rise in this sector, it will also affect other sectors and can increase the average employment rate by 3.8%, to reduce the unemployment rate in South Sumatra.

Table 1. The contribution of tourism to GDRP in South Sumatera, 2000-2015 (%)

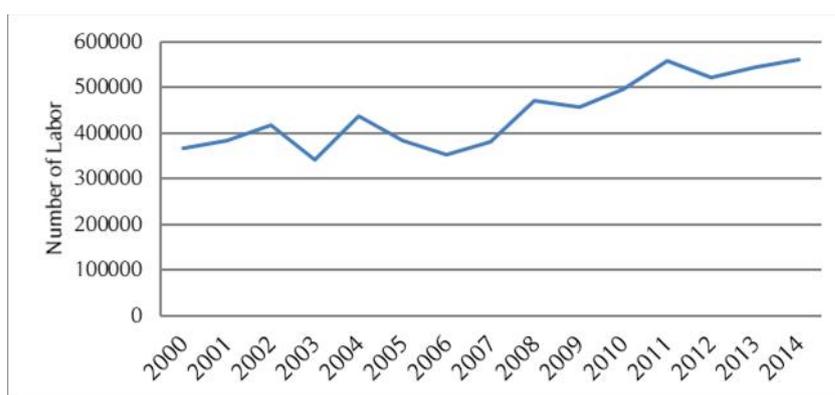
year	Contribution Tourism Sector to GDRP	Contribution of Investment to GDRP	Contribution of Expenditure to GDRP
2000	11,66	0,79	1,12
2001	11,94	1,25	1,13
2002	12,22	2,08	2,23
2003	12,42	2,54	1,69
2004	12,61	3,30	2,08
2005	12,95	3,97	2,18
2006	13,29	5,01	2,62
2007	13,69	6,27	3,82
2008	13,93	8,11	5,60
2009	13,80	9,49	5,63
2010	13,99	12,89	4,97
2011	14,16	17,29	4,45
2012	14,62	23,34	5,35
2013	15,26	31,41	5,40
2014	15,33	42,88	6,09
2015	16,43	45,85	6,84
Average	13,64	13,53	3,83

Source: South Sumatera in figures 2016

If the terms of the creative economy are an opportunity for the utilization of South Sumatera's cultural wealth, then many aspects of the tourism sector can be developed into businesses to gain profit and increase employment for South Sumatera residents, such as restaurants, inns, souvenirs, transportation and more. The average of employment growth in this sector is 3.8%.

The development and utilization of resources, as well as the tourism potential of the region, is expected to contribute to the economic development (Saner, Yiu, & Filadoro, 2015). Tourism is seen as an activity that has multiple dimensions of the circuit a development process, in which the development of the tourism sector concerns many aspects, such as, social, cultural, economic and political (Chou, 2013).

The first step in this analysis is to check stationary test results conducted by Augmented Dickey-Fuller (ADF). If the ADF test results indicate that the data is not stationary at the level, then modifications are made to obtain stationary data. One way that commonly used is a method of differentiation, i.e., reducing the value in a period with the value of the previous period data. If still not stationary then made a distinction again.



Source: South Sumatera in figures 2016

Figure 2. Trend of labor in the tourism sector in South Sumatera

ADF test results than compared with the critical value of McKinnon. If the value of t-statistic ADF is smaller than the critical value McKinnon, then the data is said to be stationary, and vice versa if the value of ADF t-statistic is greater than the McKinnon critical value, then the data is supposed to be stationary. In table 2, the resulting test of unit root using ADF test shows that NT, INV, ETS, and PDRB variables are not stationary. Therefore, testing should be performed on the first-order differentiation process.

Unit root test on the first difference results shows that all the variables in this study are stationary at a significance level of 5% (Table 2). It means that all variables in this study can be used for the analysis of time series and equations model that have been previously specified further can be estimated using a model of Granger Causality.

Table 2. Result of unit root test: first differences

Variables	t-statistics ADF	ADF McKinnon Critical Value	Unit Root Test
D(LNGDRP)	-3.965197	-4.121990	*stationary
		-3.144920	
		-2.713751	
		-4.057910	
D(LNNT)	-3.904796	-3.119910	*stationary
		-2.701103	
		-4.297073	
		-3.212696	
D(LNVAT)	-5.657879	-2.747676	*stationary
		-4.057910	
		-3.119910	
		-2.701103	
D(LNINV)	-2.993583	-4.121990	*stationary
		-3.144920	
		-2.713751	
		-2.713751	
D(LNETS)	-3.562420	-3.144920	*stationary
		-3.144920	
		-2.713751	
		-2.713751	

Note: * is stationary at 5% level. Maximum lag = 2

In determining the lag period, optimal lag determination uses variable response lengths to the past and other endogenous variables. Determination of lag in this research using Likelihood Ratio (LR) approach, Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn (HQ). The full-length lag determination can be seen in table 3.

Table 3. Determination of optimal lag length

lag	LogL	LR	FPE	AIC	SC	HQ
0	-969.6200	NA	1.33e + 60	149.7877	149.9615	149.7520
1	-876.1065	115.0936	1.04e + 55	137.8625	138.7317	137.6839
2	-759.6393	71.67210*	6.12e + 48*	122.4060*	123.9705*	122.0845*

* Indicates number of lag optimum

Table 3 explains the optimal lag according to the criteria of LR, FPE, and AIC, the smallest and most designated the lag two is indicated with an asterisk (*), therefore, subsequent analysis phase through the Granger Causality Test will use the lag 2.

Granger causality test results show the first model among the variables of the number of tourists and economic growth has no two-way relationship (table 4). However, the first model of the null hypothesis is rejected, meaning the hypothesis can be expressed as a tourism-led growth hypothesis (TLGH). The research findings show that the rate of change in the number of tourists will cause changes in economic growth. The conclusion of the tourism sector as a driver of economic growth is in line with the results of Brida et al. (2013), (2010); Caglayan et al. (2012); Li et al. (2013); Phiri (2016). Therefore, the development of tourism sector policy to encourage economic growth is very appropriate for cases in South Sumatra.

Table 4. Estimation result of Granger causality test

Null Hypothesis:	F-Statistic	Prob.
LNNT does not Granger Cause LNGDRP	0.81977	0.4744
LNGDRP does not Granger Cause LNNT	3.21396	0.0945 *
LNINV does not Granger Cause LNGDRP	3.98683	0.0629 *
LNGDRP does not Granger Cause LNINV	15.0254	0.0020 **
LNETS does not Granger Cause LNGDRP	3.23549	0.0934 *
LNGDRP does not Granger Cause LNETS	3.96593	0.0636 *

Note: ** and * indicate rejection the null hypothesis at 5% and 10% level

The second model also shows a one-way relationship, on the causality models that support the development of the tourism sector, which is the investment in tourism sector. Statistically, economic growth can also lead to increased investment in the tourism sector at 10% significance level, and even the tourism sector investment variable can cause or encourage economic growth at the 5% significance level. By causality investments more dominant tourism sector in promoting economic growth. It is more supportive Investment-led growth hypothesis (ILGH) (Dreger & Herzer, 2011).

Investments to support the tourism sector is not only an increase in the amount of accommodation but an increasing number of other service sectors such as transportation services, serving culinary specialties, as well as other services. In other words, the increase in the tourism sector investment will also provide multiplier effects and add value to other sectors. In economic theory explains that the investment is a component of aggregate demand will have an impact on increasing the output of the economy, it is in line with the contribution of the tourism sector investment to economic output (GDRP) who each year experience growth (Ekanayake & Long, 2012).

Also, the study also looked at the relationship of economic growth of government expenditure in the tourism sector. Estimation results from three models of Granger causality show that the relationship between economic growth in government spending in two-way tourism sector at the level of 10% significance. Statistically, the results also indicate that economic growth may cause government spending in the tourism sector to increase, while the increase in government spending in the tourism sector has also led to economic growth. But a statistically significant government spending more dominant tourism sector in promoting economic growth (Chou, 2013). That means that government policy in increasing spending in the tourism sector is correct, especially in improving the tourism promotion and improvement of infrastructure in the tourism sector (Chou, 2013).

In economic theory, the increase in output will boost economic growth and will directly impact on improving reception area. Further increase in regional income will encourage increased government spending. Government spending is a policy instrument to influence the course of the economy Fayissa, Nsiah, & Tadasse (2008); Lee & Chang (2008). That means that in this study the number of tourists, investment and government expenditure in the tourism sector in the region become factors that are driving the economic growth, which in turn will impact on the development of the tourism sector in South Sumatera.

The simultaneous equation model finds that the number of tourists, the added value of the tourism sector, investment, and government spending of the tourism sector have significantly affected economic growth (table 5). This finding is in line with the results of the study Akan, Arslan, & Cem (2007); Brida et al. (2010); Caglayan et al. (2012); Li et al. (2013); Phiri (2016). Furthermore, in part, the number of tourists, the added value of the tourism sector, and government spending affects economic growth in the tourism sector.

Table 5. Estimation result of simultaneous equation model

Variable	Model 1	Model 2
C (constants)	62.4985** (15.57497)	12.6752** (3.70724)
LNNT (number of tourist)	0.07259** (0.02868)	
LNGDRP (economic growth)		0.24772** (0.08211)
LNVAT (value-added of tourism)	0.18763** (0.08444)	0.32805** (0.12177)
LNINV (investment)	0.03841 (0.05246)	0.19885 (0.12609)
LNETS (government spending)	0.09076** (0.03589)	0.15247** (0.00440)
R	0.99357	0.93567
F-test	35.0102	33.8564

Note: ** and * indicate significant 5% and 10% level.

While the investments of tourism sector do not significantly affect the economic growth, this condition is estimated that investment in the tourism sector by the private sector is still low; it is expected as investors look at the availability of infrastructure in South Sumatra is still incomplete. However, other variables, such as the added value of the tourism sector, and government spending tourism sector showed a positive correlation to economic growth. This condition is expected to increase the growth of these variables, and then the economic growth will also increase.

In Table 5, the second model estimation results provide information that, simultaneously, economic growth, the value-added of the tourism sector, investment, and government spending of tourism sector has significantly affect the number of tourists visiting South Sumatera. Furthermore, partially, variable that is significant at 5% level in influencing the number of tourists visiting South Sumatera, are the economic growth, the added value of the tourism sector, investment, and government expenditure of tourism sector. We found that the variable investment to give effect to the increasing number of tourists visiting. Evidently, the investment is having the significant impact on the number of tourists visiting (Ekanayake & Long, 2012; Lee & Chang, 2008). This condition is estimated investment of tourism sector is concentrated in the city, and in the form of sports venues center, hotels, and restaurants. Besides that, although the infrastructure is still incomplete, the area frequently holds international events and national as sports games prestigious start of the SEA Games which was held in 2011 and which will take place in 2018 will come in the Asian Games, as well as other national events.

Conclusion

In this article, we studied the relationship between tourism and economic growth in South Sumatera, Indonesia. In this study, we have found that there is a one-way relationship between the number of tourists and economic growth, while investment tourism has a two-way relation to economic growth. On the other side, we also found that tourism spending has a two-way relationship to economic growth.

Furthermore, the study also found that, partially, the number of tourists, value-added of the tourism sector, and government spending of tourism sector have the significant effect on the economic growth, while, the investments of tourism sector not significant in affecting economic growth in South Sumatera. In the second model, we found the economic growth, value-added of the tourism sector, investment, and government spending of tourism sector has the significant effect on the number of tourists. All variables showed a positive relationship. The positive impact demonstrates the need for public policies that support the initiative of potential development sites in the country and strengthens demand for domestic and international travelers. Indonesia has the opportunity to learn from the experience of the whole world, both positive and negative, to correct the mistakes made because they pay less attention to the tourism sector and the need for initiatives to improve tourism promotion (Chou, 2013). As well as creating a policy to minimize the negative impacts of tourism on the development of natural resources and socio-cultural (Leitao & Hahbaz, 2016).

Acknowledgement

This research is a part of the grand project "Hibah Penelitian Unggulan Kompetitif." We thank Universitas Sriwijaya for financial support of this research through "Hibah Penelitian Unggulan Kompetitif 2016, contract Number: 592/UN9.3.1/LT/2016."

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