

Tourism Sector and Regional Income Relationship in Sinjai

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Abstract

Several previous studies have revealed that the tourism sector is positively related to regional income (*pendapatan asli daerah*). Even though the selected research location still does not have tourism potential, the relationship between these two variables is important to discuss to find tourism potential in Sinjai Regency. This research uses quantitative analysis with the Error-Correction Model (ECM) approach, which shows that all variables have fulfilled the stationarity test, long-term cointegration, Error-Correction Term (ECT) and the classical assumption test (Boedijoewono, 2012), which is the time data-series from 2012 to 2021 is used to include proxies for the number of tourists, number of hotels and other accommodation, level of infrastructure, Gross Regional Domestic Product (GDRP) in the tourism sector (trade, hotel and restaurant, entertainment and recreation sectors) and Original Regional Income in Sinjai Regency. The results of this research reveal that in the short term, changes in PAD are influenced simultaneously and partially by changes in the number of tourists, the length of roads in good condition, and Tourism GRDP. However, changes in PAD are not influenced by changes in the number of hotels. On the other hand, every change in the number of tourists and the length of road conditions will have an influence on changes both simultaneously and partially in PAD. Finally, the number of hotels and tourism GRDP do not have a significant influence on PAD.

Keywords: Regional Income; Tourism Sector; Error-Correction Model

INTRODUCTION

In the Jokowi-Jusuf Kalla mutual cooperation cabinet government, the tourism sector became one of the leading and priority sectors for realizing economic independence. There is special attention in the tourism sector due to influences such as the decreasing role of oil and gas (oil and gas) as foreign exchange earners. In research by Djakaria M. Nur (2008), several years ago, oil and gas became a mainstay in the country's foreign

exchange earnings with a distribution of around 70% of all exports. However, currently oil and gas reserves are increasingly limited and depleting, so that oil and gas can no longer be expected to be the country's only foreign exchange income. Therefore, the government is trying to boost the tourism sector so that it can contribute greatly to the country's foreign exchange.

Regional governments have now been given independent authority to be able to seek and explore regional potential for development, especially in the tourism sector. Each region throughout the territory of the Unitary State of the Republic of Indonesia has the opportunity to advance its own region. In South Sulawesi province, each region has unique geographical conditions with its own potential. Sinjai Regency, in particular, has advantages and potential in ocean, land and mountain areas with an area of 223 km² (Sinjai Regency Regional Government, 2018).

Even though it has tourism potential, Sinjai has not been able to process and make maximum use of this potential. Lack of local government support and attention to this sector is the main reason. Based on the Central Statistics Agency (*Badan Pusat Statistik*) Kab. Sinjai, the Gross Domestic Regional Product (GDRP) of the tourism sector has an accumulation that is still minimal when compared to Sinjai's total regional income (*Pendapatan Asli Daerah*), during the 2012-2021 period. This shows that every month tourism growth in the area grows slowly and only contributes a small amount to PAD.

Based on several studies on the same topic, the tourism sector is related to PAD. The difference in research location was the main reason the researchers brought up the research again. Based on this discussion, the relationship between the number of tourists, the number of hotels and other accommodation, the level of infrastructure, and the GRDP of the tourism sector (trade, hotel and restaurant, entertainment and recreation sectors) needs to be examined in relation to Original Regional Income in Sinjai Regency.

This research aims to analyze the influence of the number of tourists, number of hotels and other accommodation, level of infrastructure and GRDP of the tourism sector on Regional Original Income. This research will add to empirical studies in the academic literature. Apart from that, for practitioners, this research can provide an explanation regarding the relationship between the tourism sector and Regional Original Income.

LITERATURE REVIEW

Regional Income (*Pendapatan Asli Daerah*)

Original Regional Income is revenue obtained from the tax sector, regional levies, the results of regionally owned companies and the results of the management of separated regionally owned assets, and other separated original regional income (Mardiasmo, 2002: 132).

PAD itself is an indicator that can determine the degree of independence of a region, where the greater the regional PAD revenue, the lower the level of dependence of the government on the central government. This is because PAD is a source of regional revenue originating from the region itself. The parts in PAD are regional taxes, regional levies, the results of regionally owned companies and the results of the management of separated regionally owned assets, and other legitimate regional original income.

Tourism, Tourist and Tourism Gross Regional Domestic Product (*Produk Domestik Regional Bruto*)

Tourism comes from Sanskrit which consists of the word "pari" which means full, complete, going around; "wis" (man) which means house, property, village, community; and "ata" which means going continuously, wandering, so that if put together then tourism is going completely leaving the house (village), going around continuously, and does not include staying in the place that is the destination of the trip (Pendit N., 2002). According to Law no. 10 of 2009 concerning tourism states that tourism is a variety of tourist activities and is supported by various facilities and services provided by the community, entrepreneurs, the Government and Regional Government.

Furthermore, according to Soekadijo (2001), tourists are people who travel from their place of residence without staying in the place they visit, or only stay temporarily in the place they visit. On the other hand, theoretically in Austriana (2005) the longer tourists stay in a tourist destination, the more money they spend in that tourist destination, at least for food, drink and lodging while staying in that area. The various needs of tourists during their tour will give rise to consumerism for products in the tourist destination area so that these activities will increase regional income, especially in the tourism sector.

Regional economic growth is closely related to increased production of goods and services, which is measured in terms of Gross Regional Domestic Product (GRDP), and is also an indicator to determine the economic conditions of a region in a certain period. GRDP data can also describe a region's ability to manage its development resources, therefore the amount of GRDP for each region varies according to the potential it has and the production factors of each region (Sukirno, 2006) in Jaya and Widanta (2014). In addition, the Tourism Sector GRDP is the GRDP which is in the trade, hotel and restaurant, entertainment and recreation sectors.

Hypothesis

Empirical results of the previous studies have shown that the government plays an important role in managing the tourism sector. Research conducted by Fitri D., et al. (2014) found that the number of tourists has no influence on PAD, which is due to the low government promotion of tourism so that regional revenues from this sector are very minimal. However, the latest research conducted by Yulie Suryani (2017) shows different results, where the number of tourists has a positive and significant effect on regional income. Hence, the hypothesis proposed is as follows.

H1: The number of tourists has a positive and significant effect on PAD in Sinjai Regency

In relation to hotels and other accommodation, research conducted by Ni Komang Sri Wulandari, et al. (2014) shows results that are in the same direction as theory, where an increase in the number of hotels and other accommodation will have a positive and significant effect on PAD. Therefore, the second hypothesis in this research is as follows.

H2: The number of hotels and other accommodation has a positive and significant effect on PAD in Sinjai Regency

Regarding infrastructure, which in this case is long roads in good condition, research from Fernanda Arraniry (2018) proves that there is a positive influence between

roads in good condition and local revenue. Based on this, the next hypothesis proposed is as follows.

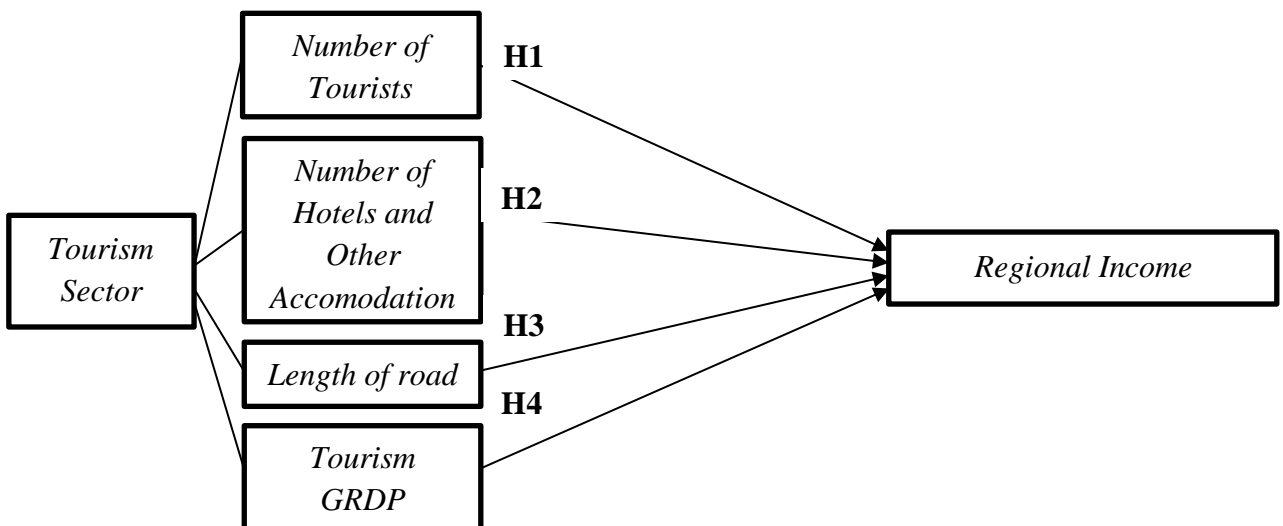
H3: *Good condition roads have a positive and significant effect on PAD in Sinjai Regency*

Research from Putu Lia (2013) shows that GRDP has an influence on PAD. The greater the GRDP of a region will cause changes to continue to increase in PAD. The latest research from Widiyanti (2017) shows that GRDP has a positive influence on PAD. This uniformity in results is due to differences in resources in the areas studied, so that economic growth is also different. The difference between this research and previous research is that the GRDP data studied only covers the tourism sector which includes the trade, hotel and restaurant, entertainment and recreation sectors. Therefore, the hypothesis proposed is as follows.

H4: *Tourism Sector GRDP has a positive and significant effect on PAD in Sinjai Regency*

The relationship model between the number of tourists, number of hotels and other accommodation, road length, Gross Regional Domestic Product (GRDP) in the Tourism Sector, and Regional Original Income (PAD) can be described as follows.

Figure 1. Research Framework



RESEARCH METHOD

This research is quantitative research using the Error-Correction Model (ECM) approach, which shows that all variables have met the stationarity, long-term cointegration and Error-Correction Term (ECT) tests and the classical assumption test, with time series data processed using the Eviews application. Then, this research aims to show the relationship between the independent variable and the dependent variable, or a cause-and-effect relationship (Boedijoewono, 2012). This regression method is used to measure the relationship between the number of tourists, number of hotels and other accommodation, road length, Gross Regional Domestic Product (GRDP) in the Tourism Sector, and Regional Original Income (PAD) in Sinjai Regency throughout the 2012-2021 period.

The population in this research is all published data from the Department of Tourism and Culture, the Central Statistics Agency, and the Regional Revenue Agency in Sinjai Regency. Then, this research took samples from time series data at the beginning and end of each semester during the 2012-2021 period. In this research, data was collected secondarily by collecting data from literature, library studies, or previous similar research related to this research, including data from the Tourism and Culture Office, Central Statistics Agency data, and National Agency data. Regional Income in Sinjai Regency. To analyse the relationship, this research uses an *error-correction model* (ECM) adopted from Widarjono (2013). Regression model analysis is used to examine the relationship between variables. Generally, a model contains independent and dependent variables. The empirical model of regression analysis can be written as follows.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \quad (1)$$

$$PAD = \beta_0 + \beta_1 LWisatawan + \beta_2 Hotel + \beta_3 Jalan + \beta_4 PDRB_{par} + e \quad (2)$$

In this research, local income (PAD) is the dependent variable in this research, while the independent variables are the number of tourists, the number of hotels and other accommodation, and the GDRP of the tourism sector. The explanation of these variables is as follows.

- a) Regional Income (*PAD*) is a revenue/income obtained from the regional tax sector, regional levies, results of regionally owned companies/separated regional wealth management results, and other legitimate regional original income in Sinjai Regency during the 2012-2021 semester period. This variable uses natural logarithm (Ln).
- b) The number of tourists (*LWisatawan*) is the large number of tourists, both foreign and domestic, who visit Sinjai Regency. The total number of tourists visiting Sinjai Regency during the 2012-2021 semester period in units of people per person, measured in natural logarithm (Ln).
- c) Number of hotels and other accommodation (*Hotel*) is measured by the total number of hotels and other accommodation in the Sinjai Regency area during the 2012-2021 semester period. This variabel uses natural logarithm (Ln) measurement.
- d) The length of road is local roads in the primary road network system which do not include roads connecting the capital, connecting the district capital with the sub-district capital, between sub-district capitals, district capitals and local activity centers, between local activity centers, as well as public roads in the secondary road network system within the district area, and district strategic roads, measured in natural logarithm (Ln).
- e) Tourism Sector GRDP (*PDRB_{par}*) in this research is the total value of final goods/services products from the trade, hotel and restaurant, entertainment and recreation sectors in Sinjai Regency during the 2012-2021 semester period in Rupiah units, and measured in natural logarithm (Ln).

RESULTS AND DISCUSSION

Unit Root and Cointegration Test

In time-series model, to carry out the data stationarity test, the Unit Root Test is used for each variable used with the result that all variables are not stationary at the level. Based on the table below, it is found in the Degree of Integration Test or Augmented Dickey-Fuller Test, all variables are stationary at 1st Difference.

Table 1. Augmented Dickey-Fuller Test Result

Variables	<i>t-statistic</i>			Annotation
	Level	1 st Difference	Prob.	
PAD	-0.5776	-4.208712**	0.0000	Stasioner
LWisatawan	0.56793	-2.969762**	0.0025	Stasioner
Hotel	-3.3771	-3.529606**	0.0043	Stasioner
Jalan	-1.8895	-5.041231**	0.0067	Stasioner
PDRB _{par}	-3.23893	-3.027291**	0.0006	Stasioner

** Signifikan pada $\alpha = 5\%$

Source: Author’s estimation (2022)

The purpose of the cointegration test is to see the extent of the balanced relationship between the variables in the long term. Data can be said to have a long-term relationship if the data is cointegrated at the same level. If the variables show cointegration then there is a relationship over a long period of time. On the other hand, if the variables do not show cointegration then there is no long-term relationship. One of the tests used to determine the cointegration of a number of variables is the test developed by Johansen (1991).

In the Cointegration Test, the t-statistic must be greater than the critical value ($\alpha=1\%$, 5% , and 10%). Then, it was found that in the t-statistic model, all variables t-statistics were greater than $\alpha=5\%$ and so on. Hence, in this model the variables were cointegrated with each other.

Error-Correction Model (ECM)

In this model, we run two regressions with long-run and short-run equation. The result is showed in Table 2 below.

Table 2. Estimation Results (Long-run Equation); Dependent Variable: PAD

Variabel	Coef.	Std. Error	t-stat	Prob.
LWisatawan	0.3436	0.1424	2.4120	0.0291**
Hotel	-0.0268	1.1186	-0.0239	0.9812
Jalan	0.6060	0.2041	-2.9677	0.0096*
PDRB _{par}	1.3564	1.3714	0.9891	0.3383
C	1.5716	8.7046	0.1805	0.8591
			R-squared	0.8605
			Adj. R-squared	0.8233
			F-stat.	22.1394
			Prob. (F-stat.)	0.0000

* $\alpha = 10\%$, ** $\alpha = 5\%$, *** $\alpha = 1\%$

Source: Author's estimation (2022)

Table 2 shows that only number of tourists (LWisatawan) and the length of road (Jalan) are significant on local income (PAD). This implies that in long run, an increase of percentage in number of tourists and the length of road effects 34 percent and 60 percent on local revenue consecutively. The R-squared value is 86 percent, meaning that the model is strong to explain the relationship of each variable.

Table 3. ECM Estimation Results (Short-run Equation); Dependent Variable: PAD

Variabel	Coef.	Std. Error	t-stat	Prob.
D(LWisatawan)	0.4325	0.7240	-0.5974	0.0197**
D(Hotel)	-0.8890	1.0781	-0.8245	0.4234
D(Jalan)	0.2901	0.3851	0.7532	0.0038*
D(PDRB _{par})	0.4536	1.5015	-0.3021	0.0470**
ECT (-1)	-1.2699	0.2327	-5.4564	0.0001***
C	0.1284	0.1025	1.2518	0.2311
			R-squared	0.7688
			Adj. R-squared	0.7103
			F-stat.	21.5869
			Prob. (F-stat.)	0.0000

* $\alpha = 10\%$, ** $\alpha = 5\%$, *** $\alpha = 1\%$

In estimation, the requirement for a good ECM model is that it must have a significant and negative ECT (Insukindro, 1999). Based on Table 3, it can be concluded that with a coefficient value of 126.99 percent, ECT has a significant relationship with PAD.

Classical Assumption Test

Tabel 4. Classical Assumption Test Results

Tests	Annotation		Judgment
Normality	Jarque-Bera Test	0.4843	model meets the normality requirements
	Prob.	0.7849	
Linearity	t-stat. (Prob.)	0.2381	model meets the linearity requirements
	F-stat. (Prob.)	0.3240	
Multicollinearity	<i>Variables</i>	<i>Centered VIF</i>	model meets the multicollinearity requirements
	LnAK	1.4093	
	TK	1.7774	
	LnAP	2.4113	
	PTK	1.9374	
	ECT (-1)	1.2941	
Heteroscedasticity	F-stat.	0.6719	model meets the heteroscedasticity requirements
	Prob. F(5.13)	0.6519	
Autocorrelation	Obs*R-squared	7.0474	model avoids autocorrelation
	Prob. Chi-square(2)	0.0295	

Sumber: Author's Estimation (2022)

Then, Table 4 concludes that the analysis model and estimation results used are not showing bias symptoms and efficient enough from the use of OLS model.

Analysis Model

Table 5. Effect of Independent Variables on Dependent Variable

Variables	Coef.	Prob.	Coef.	Prob.
	Model 1 (Long-run)		Model 2 (Short-run)	
LWisatawan	0.3436	0.0291**	0.4325	0.0197**
Hotel	-0.0268	0.9812	-0.8890	0.4234
Jalan	0.6060	0.0096*	0.2901	0.0038*
PDRB _{par}	1.3564	0.3383	0.4536	0.0470**
ECT (-1)			-1.2699	0.0001***
R-squared		0.8702		0.7688

Based on Table 5, the R-squared value increases from model 1 to model 2, with 87 percent and 76 percent respectively. This shows that both models are strong. This result shows that tourists who come to Sinjai and the length of road are positive significantly on local revenue. The percentage of tourists who come to Sinjai impacts an increase of local income with 34.36 percent in long-term and 43.25 percent in short-term, and an increase of the length of road effects on 60.60 percent in the long-term and 29.01 percent in the short-run of local income increasing. These results imply that people who to take a holiday will spend their money in Sinjai, but to attract the visitors the local government needs to improve the infrastructure, the quality of the road and the length of road with good condition (Arraniry, 2018; Suratno, 2010; and Suryani, 2017).

On the other side, tourism sector GRDP only impacts the local income in short-run. An increasing percentage of tourism sector GRDP effects 45,36 percent of local income increasing in short-term. This implies that tourism products should be increased by boosting the income of the micro, small and medium enterpresis (Widyanti, 2017). In long-term, local revenue would increase by improving the infrastructure of tourism sector and presenting the strategic policies in term of tourism sector.

CONCLUSION

The goal of this research is to analyse the relationship between tourism sector and local income in Sinjai Regency, Indonesia. To achieve this purpose, this research uses an error-correction model (ECM) by applying the time-series dataset. The data is collected from all published data from the Department of Tourism and Culture, the Central Statistics Agency, and the Regional Revenue Agency in Sinjai Regency, from 2012-2021 period. Local income is the dependent variable, while the number of tourists, the length of road, the number of hotels and GRDP tourism sector are the independent variables.

From the unit root and cointegration estimation, all variables show stationary and cointegrated with each other. The model used in this research is strong both long and short-term. The results of this study show that people who to take a holiday would spend their money in Sinjai, whether they book a hotel or buy some souvenirs. However, to

attract the visitors the local government needs to improve the infrastructure, the quality of the road and the length of road with good condition (Arraniry, 2018; Suratno, 2010; and Suryani, 2017). Furthermore, tourism products should be increased by boosting the income of the micro, small and medium enterpresis (MSMEs) (Widyanti, 2017). It is true that MSMEs would increase the local community's income and, thus, improve the local revenue in short-term. In long-term, local revenue would increase by improving the infrastructure of tourism sector and presenting the strategic policies in term of tourism sector.

This research has some limitations. The data in this study is limited due to administrative data problems from the local government. Furthermore, the number of hotels in Sinjai is quite small, because there are no strategic policies from government to develop the tourism sector, especially the development of hotels for tourists. For the future research, the local wisdom cultures in Sinjai are quite interesting and of course can have an effect on tourist attraction. The analysis in this research model does not include these indicators, even though this culture could have a strong influence on increasing regional income. For the government, the research results from this study will be a rationale for presenting strategic policies to encourage the improvement of the tourism sector in Sinjai. Improving infrastructure to support the tourism sector such as road access, strengthening tourism promotion, and developing tourism package models could be achieved.

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