

Article

The Impact of Tourism on Economic Growth: Evidence from Aceh Province, Indonesia

Zeary Saputra¹, Sartiyah Sartiyah^{1,*} and Chenny Seftarita¹

¹ Department of Economics, Faculty of Economics and Business, Syiah Kuala University, Darussalam, Banda Aceh, Indonesia; zearysaputra007@gmail.com (Z.S), chenny@unsyiah.ac.id (C.S)

* Correspondence: sartysabang@unsyiah.ac.id (S.S)

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Abstract: Tourism is one of the sectors expected to provide employment, increase people's income, and activate other production sectors in the regional economy. This study mainly focuses on determining the impact of tourism income, tourist visits, infrastructure, and labour on economic growth using panel data regression of 23 districts/cities in Aceh Province, Indonesia, year observation 2016-2020. Based on estimation results, all independent variables were found to have a significant and positive effect on Economic Growth. Furthermore, the panel data regression model that has been formed is found to be fit, which means that Tourism Income, Tourist Visits, Infrastructure, and Labour are considered capable of representing the factors that influence Economic Growth in Aceh Province. Based on these findings, it is hoped that the government will be able to formulate a strategic policy, especially in the tourism sector, that can accelerate and maintain economic growth in Aceh Province.

Keywords: economic growth, tourism income, tourist visit, labour, panel data regression.



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1. Introduction

The tourism sector in the national economy is one of the sectors that is expected to be able to provide income increase through foreign exchange earnings. The tourism sector has a significant impact on the community, especially for people in areas or locations that are tourist destinations. One factor that can support economic growth progress is by developing tourism since this sector is one of the industries that can encourage rapid economic growth, especially in providing employment, increasing people's income, also activating other production sectors (Rajendra & Kismartini, 2017). Economic growth is a crucial indicator in analysing a region's economic development (Dewi & Dewi, 2019).

In addition, the development of infrastructure and labour especially in the tourism sector is also one of the indicators that can encourage tourist visits to increase (Pertiwi, 2014). But during the pandemic, the tourism industry in Indonesia experienced many obstacles. As data shows, since February 2020, the number of foreign tourists entering Indonesia has decreased drastically. The 2020 year decline peaked in November with the number of tourist visits only about 144,476 people from 1.29 million people in January and 872,765 people in February. Throughout 2020, the number of foreign tourists entering Indonesia was only about 4.05 million people. This figure is very concerning because its only about 25% of the year 2019 number of tourist

visits (Badan Pusat Statistik Aceh, 2021). This also impacted state revenues in the tourism sector year 2020 which recorded a decrease as much as Rp20.7 billion from the year 2019 (Utami & Kafabih, 2021).

Aceh Province tourism in general is also affected by pandemic. Tourism income of districts/cities in Aceh Province from 2016 to 2020 is increasing in trend, but at several areas suffer some decrease recently. In North Aceh Regency, tourism performance decreased by 4.6%, and Lhokseumawe City even reached decreased performance by 21.05%. This happen because the number of tourists decreased, so income such as hotel taxes and entertainment taxes decreased in follow. The decline in tourism sector income also impacted the overall economic slowdown. In 2020, the economic growth rate of Aceh Province decreased by 3.9% while in 2020 the economic growth recorded -0.31% compared to 4.21% in 2019 (Badan Pusat Statistik Aceh, 2021).

A region's economy is usually reflected in Gross Regional Domestic Product (GRDP) growth. This is because GRDP is a sub-sector component of the regional economy to measure the success of economic development. The economic growth rate of Aceh Province based on regencies/cities has decreased, namely Central Aceh Regency, which decreased by 6.64% from 2016 to 2021. Furthermore, there are Aceh Singkil Regency, South Aceh Regency, Pidie Jaya Regency, Bener Meriah Regency, Sabang City and Langsa City, which have decreased by about 5%. Meanwhile, only East Aceh District, Nagan Raya District, and Banda Aceh City experienced an increase (Badan Pusat Statistik Aceh, 2021). The development of the economic growth rate is influenced by the stability of the regional economy, starting from the rate of inflation, deflation, public consumption interest, and the role of each economic sector.

Based on data from the Central Statistics Agency, it was recorded that the number of tourists visiting Aceh Province in 2020 decreased by 1 million people when compared to the previous year. In 2016 the number of tourist visitors to Aceh Province was 19,011 people and this continued to increase in the next coming years, but in 2020 the number of tourist visitors decreased to 10,402 visitors. The number of tourists for regencies/cities has also decreased, such as Simuelue Regency which fell 2.52%, Southeast Aceh Regency fell 67.9%, Sabang City fell 80.32%, Bener Meriah Regency fell 25.95%, and Subulussalam fell as much 58.64%. Meanwhile, three regions, namely Sabang City, Great Aceh Regency, and Banda Aceh City, tend to increase from 2016 to 2019 (Badan Pusat Statistik Aceh, 2021). Many tourist visits will have a good impact if accompanied by the ability to buy and make transactions when visiting tourist attractions. This will impact the better economic turnover of a region and can increase the contribution of income for the region (Dewi & Dewi, 2019).

Some previous studies about this issue, research by Arifin, (2022) try to estimate the contribution of tourism to economic growth in Central Java Province, Indonesia, using 35 regencies/cities data from 2014 to 2018. Akan et al., (2007) examined the impact of tourism on economic growth in Turkey with year observation 1985-2007. Bojanic & Lo (2016) researched comparison moderating effect of tourism reliance on the economic development for islands and other countries year 1995-2014. Novitasari et al. (2020) investigated the impacts of infrastructure development on economic growth in all regencies and cities of three provinces in Indonesia which are West Java Province, DKI Jakarta Province, and Banten Province. Du et al. (2022) identified and evaluated the impact of new infrastructure investment on economic growth quality in China from 2004 to 2019. Pratiwi & Dewi (2021) analysed the effect of investment, labour, and minimum wages on economic growth in the regencies/cities of Bali Province, Indonesia, with panel data for nine years between 2011-2019. Sani et al., (2018) examined influence of human capital, labour, and capital on economic growth in Barlingmascakeb region, Indonesia, year 2008-2015.

Even though there are already a lot of studies about this issue, the author identified that there is still lack of research that try to conduct impact of chosen variables, especially tourism sector, toward economic growth of Aceh Province by using data that effected by pandemic condition. In researcher opinion, this is very important consider that tourism sector of Aceh Province is contain a lot of potential toward improving regional economy and by knowing the influence given by tourism income, tourist arrivals, also infrastructure and labour, it can formulate a policy that can accelerate the rate of economic growth in Aceh Province.

2. Literature Review

Economic growth is a process of continuously increasing per capita output in the long term, which causes goods and services produced in society to increase and so people's prosperity (Defarahmi & Zulkifli, 2017). Tourism income is part of local revenue originating from tourism activities, such as levies for recreation and sports, hotel and restaurant taxes, entertainment taxes, and others in units of rupiah per year. Tourism income is income earned through a hotel tax, restaurant tax, entertainment tax, convenience store levy, restroom levy, advertising levy, tourism object entrance ticket, tourist attraction parking levy, construction tax, and revenue from the local tourism office. Tourists are travel activities carried out by a

person or group of people by visiting certain places for recreational purposes, personal development, or learning the uniqueness of tourist attractions visited for a temporary period. Tourists are people who travel from their place of residence without settling in the place they are visiting or only temporarily staying in the place they are visiting (Bambang Supriadi & Roedjinandari, 2017).

Infrastructure as physical facilities developed or required by public agencies for government functions in providing water, electricity, waste disposal, transportation, and other services to facilitate economic and social goals. Infrastructure is a physical system that provides transportation, irrigation, drainage, buildings, and other public facilities, which are needed to meet basic human needs, both social and economic needs (Panjaitan et al., 2019). Workers are residents aged between 17 and 60 years who work to earn their own money. Furthermore, labour is a workforce that works inside and outside the working relationship with the main production tools in the production process, both physically and mentally (Hellen et al., 2018).

Some previous studies related to this paper, research by Arifin, (2022) that try to estimate contribution of tourism to economic growth in Central Java Province, Indonesia, using 35 regencies/cities data from 2014 to 2018. The results showed that the number of tourist attractions led to regional income had a significant positive effect on economic growth. Akan et al. (2007) examined the impact of tourism on economic growth in Turkey year observation 1985-2007. Using multiple regression approach, results of the study shows that there is a positive and significant causality effect between tourism and economic growth, both in the short-term and long-term. Bojanic & Lo (2016) examined the moderating effect of tourism reliance on the economic development for islands and other countries year 1995-2014. Estimation result shows that tourism have a positive and significant moderating effect on the relationship between tourism development and economic development for all countries observation.

Novitasari et al., (2020) investigated the impacts of infrastructure development on economic growth in all regencies and cities of three provinces which are West Java Province, DKI Jakarta Province, and Banten Province. This research use multiple regression approach and found that infrastructure has significant and positive impacts on economic growth. Du et al., (2022) identified and evaluated the impact of new infrastructure investment on economic growth quality in China from 2004 to 2019. The findings demonstrate that new infrastructure investment has positive impact and significantly improve economic growth quality. Pratiwi & Dewi (2021) analysed the effect of investment, labour, and minimum wages on economic growth in the regencies/cities of Bali Province, Indonesia, with years observation between 2011-2019. Using multiple linear regression analysis technique, analysis result shows that labour has a positive and significant effect toward economic growth. Sani et al. (2018) studied the influence of human capital, labour, and capital on economic growth in Barlingmascakeb region, Indonesia, year 2008-2015. Also use multiple linear regression approach, labour was found to have a positive and significant effect on economic growth.

3. Materials and Methods

3.1. Materials

The main focus of this study is to determine the impact of Tourism Income, Tourist Visits, Infrastructure, and Labour on Economic Growth in Aceh Province, Indonesia. The type of data used in this paper is panel data of 23 districts/cities in Aceh Province year observation 2016-2020 obtained from Central Statistics Agency (BPS) of Aceh Province.

3.2. Methods

The regression equation used in this paper is written as follows (Gujarathi, 2022):

$$EG_{it} = \beta_0 + \beta_1 TI_{it} + \beta_2 TV_{it} + \beta_3 IF_{it} + \beta_4 LB_{it} + \varepsilon_i \quad (1)$$

Which are EG is stand for Economic Growth, TI is for Tourism Income, TV is for Tourist Visits, IF is for Infrastructure, and LB stands for Labor.

4. Results

Panel data regression need the first step to determine the best method that fits the regression model. As shown in Table 1, Chow Test was conducted and result showed probability value is 0.0000 (<0.05) which indicates that between common effect model and fixed effect model, fixed effect model is the best method. Furthermore, as shown in Table 2, Hausman Test is also conducted and resulting probability value 0.0132 (<0.05) which indicates that between fixed effect model and random effect model, fixed effect model is still the best final method for estimating model data.

Table 1. Estimation Results of Chow Test

Effects Test	Prob.
Cross-Section F	0.0000
Cross-Section Chi-Square	0.0000

Table 2. Estimation Results of Hausman Test

Test Summary	Prob.
Cross-Section Random	0.0132

As shown in Table 3, the estimation results indicate that all selected independent variables have a significant effect on the dependent variable Economic Growth. The simultaneous effect of independent variables also resulting significant which probability value of F-statistics obtained is 0.0000 (<0.05), indicates that selected independent variables are simultaneously significant effect on Economic Growth. Furthermore, R² value obtained is 0.8665 which indicates that the variation of the Economic Growth value explained by the independent variables as much as 86.65 percent. Remaining 14.35 is explained by other variables, which are not studied in this investigation.

Table 3. Estimation Results of Panel Data Regression with Fixed Effect Model

Variable	Coefficient	Prob.
C	-1.146397	0.0000
Tourist Income	0.052017	0.0961
Tourist Visit	0.042956	0.0386
Infrastructure	0.078768	0.0006
Labour	0.068843	0.0008
R-Squared	0.8665	
Prob(F-statistic)	0.0000	

Note: Dependent variable: Economic Growth

Table 3 displays the estimation result of fixed effect model. This study indicates that tourist income, tourist visit, infrastructure and labour have significant positive effect on economic growth. The regression coefficient of tourist income is 0.052017 and significant at the level 10 percent (Prob. = 0.0961). It means that increase 1 dollar tourist income, it will give effect on increasing economic growth as much as 5.2 percent. Tourists visit coefficient regression is 0.042956 and significant at the level 5 percent (Prob. = 0.038). It means that increase 1 percent tourist visit, it will give effect on increasing economic growth as much as 4.2 percent. The coefficient regression of infrastructure is 0.078768 and significant at the level 1 percent (Prob. = 0.0006). It means that increase 1 percent infrastructure development, it will give effect on increasing economic growth as much as 7.8 percent. Also, labour regression coefficient is 0.068843 and 0.0008 significant at the level 1 percent (Prob. = 0.0008). It means that increase 1 person labour, it will give effect on increasing economic growth as much as 6.8 percent.

5. Discussion

Tourism income has a positive and significant effect on economic growth. Probability value obtained is 0.0961 (p. <0.10). It indicates tourism income has a significant effect on economic growth at below 10 percent error level. Coefficient value obtained is positive 0.0520 which shows that if income from tourism increase as much IDR 1 billion, economic growth will also increase as much 0.0520 percent. Several previous studies are in line with this findings, such as study by Arifin (2022) and Akan et al., (2007). Bojanic & Lo (2016) also found that Tourism Income had significant and positive effect toward Economic Growth.

Tourist visit was also found significant and have positive effect on economic growth. Probability value obtained is 0.0386 (p.<0.05) that shows Tourist Visit variable have a significant effect toward Economic Growth at below 5 percent error level. Coefficient value obtained is positive 0.0430 which indicate that if tourist visit increase as much 1 people, Economic Growth will also increase as much 0.0430 percent. Previous studies that suits with this finding which are study by Arifin, (2022) and Akan et al., (2007), Bojanic & Lo (2016) found tourist visit had significant and positive effect on economic growth.

Then, infrastructure was found a positive and significant effect toward economic growth. Probability value obtained is 0.0006 ($p < 0.01$). It indicates that infrastructure has a significant effect on economic growth at below 1 percent error level. Coefficient value obtained is positive 0.0788 indicates that if Infrastructure increase as much 1 km, economic growth will also increase as much 0.0788 percent. Previous studies in line with this finding are study by Novitasari et al., (2020) and Du et al., (2022) also found Infrastructure had significant and positive effect toward Economic Growth.

Lastly, labour was significant and positive effect on economic growth. Probability value obtained is 0.0008 ($p < 0.01$) that shows strong indication which Labour variable have a significant effect on Economic Growth at below 1 percent error level. Coefficient value obtained is positive 0.0689 indicate that if Labour increase as much 1 people, economic growth will also increase as much 0.0689 percent. Previous studies that in line with this finding is study by Pratiwi & Dewi, (2021). Also, Sani et al., (2018) found Labour had significant and positive effect toward economic growth.

6. Conclusion

The primary purpose of this study is to determine the impact of tourism income, tourist visit, infrastructure, and labour on economic growth using panel data regression of 23 districts/cities in Aceh Province, Indonesia, year observation 2016-2020. On the basis of estimation result, all independent variables were found to have significant and positive effect toward economic growth. Furthermore, the panel data regression model that has been formed is found to be fit, which means that tourism income, tourist visit, infrastructure, and labour are considered capable of representing the factors that influence economic growth in Aceh Province. Based on these findings it is hoped the government will be able to formulate a strategic policy, especially in tourism sector, that can accelerate and maintain economic growth in Aceh Province, Indonesia.

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