Tourism and Economic Growth of Bangka Belitung Islands Province, Indonesia

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Abstract: *Tourism sector in Indonesia becomes superior or main sector despite agricultural and marine sector. Bangka Belitung Islands Province is one province in Indonesia develops tourism sector after several decades relied on tin commodity. Commitment of regional government to develop tourism sector seen from the increase of expenditure budget allocation of infrastructures and goods for eleven years period. The increase number of hotel, restaurant, and tourism area in the tourism development becomes one indicator towards the improvement of private role. This research analyzed infrastructure expenditure, goods and service expenditure, business unit, private investment, also tourism labor to the economic growth. Data used in this research was panel data with time series data for eleven years period (2005-2015) and cross section data from seven regencies/cities in Bangka Belitung Province. This research was conducted using multiple linear regression analyzed with Ordinary Least Square (OLS) method. Partial test in this research showed that goods-service expenditure and tourism business unit had no effect to the economic growth, while infrastructure expenditure affected negatively and private investment as well as labor affected positively to the economic growth. It means that the development of tourism sector should be focused on the efforts of infrastructure expenditure, promotion expenditure, and tourism business optimization in order to improve economic growth of Bangka Belitung Province in the future.*

Keywords: *Economic Growth, Infrastructure Expenditure, Goods-Service Expenditure, Business Unit, Private Investment, Tourism Labor*

I. Introduction

Bangka Belitung Islands Province is one region in Indonesia that still conducting tourism development (RPJMD-Regional Medium Term Development Plan 2012). Despite having potential tourism objects, tourism sector of Bangka Belitung Islands Province has included in Government Regulation No.50/2011 and Letter of Decision B652/Seskab/Maritim/2015 in which President of Indonesia Republic gives mandate and direction about Indonesia tourism by establishing 10 (ten) priority tourism destinations in Indonesia including Tanjung Kelayang in Belitung Island. It means that the area is tourism destination being central government target in developing national tourism (Ministry of Tourism, 2015).

During this time, mining sector is superior sector in Bangka Belitung Islands Province. However, mining source potential has been decreased by its reserve and production level. It is seen from contribution of mining sector to the PDRB (Gross Regional Domestic Product) for the last few years that been decrease where in 200 it is only 15.86% and in 2015 13.29%. The regional government realizes that Bangka Belitung Islands Province cannot be relied on mining sector in the future. One of regional potential made as alternative of mining sector is tourism sector. It can be seen from the growth of tourists visited Bangka Belitung Islands Province period of 2010-2015 in which it reaches up to 20.5 per cent per year, from 136,710 tourists in 2010 to be 305,436 tourists in 2015 (Central Bureau of Statistics). Theoretically, it is stated that there is trend or preference towards the increase of tourist number. It means that it will improve tourist interest to the goods and service demand resulted by tourism sector (Pitana, 2009). A number of study about the effect of economy by tourism development also conducted by Harun (2012), Hassan (2013), Davis (1988), Durbarry (2002), Khan (1990), Morrison (2002), Uysal (1994), and Gitelson (1993) in which those studies concluded that tourism sector able to earn income for a country by using different variables in each research.

Chang (2007) and Mosey (2016) compared tourism development in many countries using government expenditure variable with panel cointegration and panel causality analysis. Manalu (2004), Alfirman, Luky and Sutriono (2006), Jiranyakul (2007), and Danawati, Bandesa and Utama (2016) by using path analysis showed that tourism development had significant effect to the economic growth. Ardahaey (2011) added that tourism price, tourism business unit, and tax variable showed the same result. Then, Lee dan Kwon (1995) analyzed

tourism development in South Korea to the economic growth by including private investment variable with the result that there was positive relationship between private investment and economic growth. In addition, Margherita (2013), despite used investment and labor variable, her research also added infrastructure variable where the research result showed positive contribution to the economy. Moreover, similar study about tourism development also conducted by Ajala (2008) using variable of labor and income from tourism sector in which the research concluded that labor and income not only profitable for the businessmen, but also for all areas with high multiplier effect to the national economy.

Based on research background above, this research analyzed the effect of infrastructure expenditure, goods-service expenditure, private investment, business unit, tourism labor to the economic growth in Bangka Belitung Islands Province.

II.   Theoretical

Keynesian stated that government expenditure gives positive contribution to the economic growth. Expenditure framework in open economy according to Keynesian represented in the equation Y=C+I+G+(X-M), where Y is aggregate expenditure describes national income or Gross Domestic Product (GDP) or Gross Regional Domestic Product (PDRB); C is household consumption; I is private investment; G is government expenditure; X is export; and M is import. Keynesian stated that short term total economic income heavily depends on household, company, and government desire to expend the income.
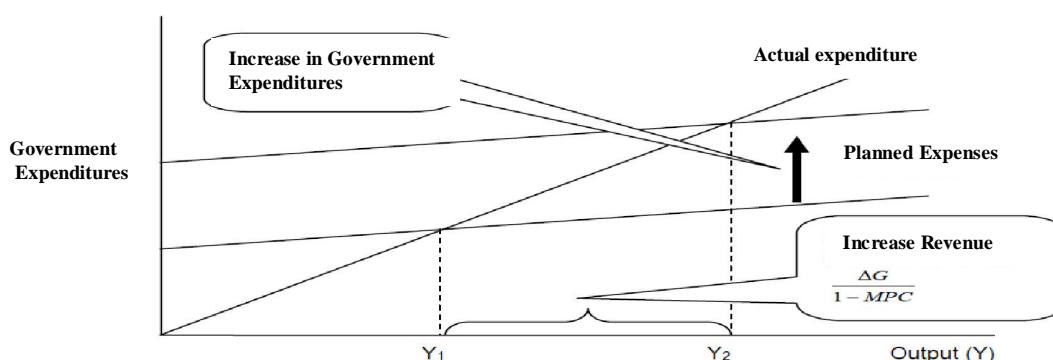

Figure 1 : Keynesian Cross, Upward Sloping Line in Planned Government Expenditure of ΔG Improves Output of $\Delta G/(1\text{-}MPC)$

Source: Mankiw, 2006

Neoclassical theory developed by Robert Solow (1970) from USA and Trevor Swan (1956) from Australia. This Solow-Swan model uses population growth, capital accumulation, and technological advance variable. Besides that, Solow-Swan model also uses production function that enable the substitution between capital (K) and labor (L) with the equation Y = F (K, L). Growth theory by Solow-Swan assumed in condition as follows: labor grows in certain rate, for instance, P per year; production function Q = f (K,L) prevailed in each period; trend of savings by people that stated as certain proportion (s) from output (Q). People savings S = sQ; if Q improves then S also improves, vice versa; All people savings invested S = I = ΔK.

In addition, Romer, through endogenous theory, completes theory developed by Solow by adding R&D factor played role significantly in long term growth. Grossman & Helpman (1991) as well as Aghion & Howit (1992) (Barro, Sala-i-Martin, 2004) stated that technological advance is the result of R&D, which is if in an economy there is no trend of innovation decrease, then long term growth level will keep positive.

Economic development theory by Lewis (1954) stated that economic structure transformation formulated through traditional economy and industrial economy. It means a region conducts area development or economic development will have economic structure change, from traditional (mining) to be industry (tourism).

Theory of public expenditure proposed by Musgrave dan Rostow (1959) relates the development of government expenditure to the economic development steps. State or regional expenditure is state or regional expenditure based on each regional sources. There are 3 economic development steps, initial step of development, middle step of development, and advance step of development which then represented in state expenditure.

III. Research Method

3.1. Analysis Method

This research used quantitative data type that assessed in a numeric scale. Data that used in this research was time series data from 2005 to 2015 consists of infrastructure expenditure, goods-service expenditure, private investment, business unit, and tourism labor as well as data of economic growth. While, cross section data consists of 6 regencies and 1 city, thus data that used in this research was pooled data (panel data).

This research used multiple linear regression model and panel data with Ordinary Least Square (OLS) analysis. This research used panel data in its data processing, which is combination from cross-section and time series data. General equation from regression model of panel data can be formulated as follows:

$Y_{it} = \square_1 + \square_2 X_{2it} + \square_3 X_{3it} + U_i$…………………………………….................…… (1)

Where :

i = 1,2,3,…,N (cross section dimension); t= 1,2,3,..,T (time series dimension); Y_{it} = dependent variable in unit i and time t; X_{it} = independent variable in unit i and time t; $\square$ = constants; $\square_{2,3}$ = constants of independent variable in time t and unit i; u_{it} = error

Widarjono (2009) stated that there are many methods that may be used in estimating regression model by panel data such as Common Effect approach. The equation of Common Effect model according to Gujarati (2012) as follows:

…………………………………….......(2)

Fixed effect model is model by using different intercept for each subject (cross section); however, slope of every subject does not change as time goes by (Gujarati, 2012). This model assumes that intercept is different for each subject, while slope remains same among subject. This model mostly called as Least Square Dummy Variables (LSDV) model. Based on Gujarati (2012), that model equation as follows:

…………………………………….……..……(3)

Random effect model caused by variation in value and relationship direction between subject assumed as random that specified in residual(Kuncoro, 2012). The equation of random effect model according to Gujarati (2012) as follows:

……………………………………….......……(4)

Based on variable that would be tested in this research, then it was created by a function as follows: PE = f{ BIP, BBJ, ISp, UUp,TKp}

From the functiona bove, it was created by research estimation model as follows:

$PE_{it} = \square_1 + \square_1 BIP_{1it} + \square_2 BBJ_{2it} + \square_3 ISP_{3it} + \square_4 UUP_{4it} + \square_5 TKp_{5it} + E$…..... (5)

Where :

i : 1,2,3,.. …7(cross section dimension); t: 1,2,3,.. 11(time series dimension); PE: economic growth in unit i and time t; BIP: tourism infrastructure expenditure in area i and year t; BPP : goods-service expenditure in area i and year t: ISP: tourism private investment in area i and year t; UUP : tourism business unit in area i and year t; TKp : tourism labor in area i and year t; β_1 : constants $\square_2, \square_3, \square_4, \square_5, \square_6$: constants from independent variable in area i and year t; E_i: error term

3.2. Definition of Operational Variable

Variable in this research as follows: (1) tourism infrastructure expenditure, which is government expenditure to the realization of infrastructure expenditure in tourism sector; (2) goods-service expenditure, which is government expenditure to the realization of tourism promotion and marketing; (3) tourism private investment, which is proxy of initial capital value mentioned when investor submits tourism business license to One Stop Integrated Licensing and Service Agency (BPPTSP); (4) tourism business unit, which is number of business unit in tourism sector; (5) tourism labor, which is number of labor in tourism sector that been adsorbed and not adsorbed in the work field.

IV. Result

4.1. Description of Research Location

This research was conducted in Bangka Belitung Islands Province consists of 6 regencies (Bangka, South Bangka, Central Bangka, West Bangka, Belitung and East Belitung Regency) and 1 city (Pangkalpinang City) with each regional area presented in Figure 2 below:
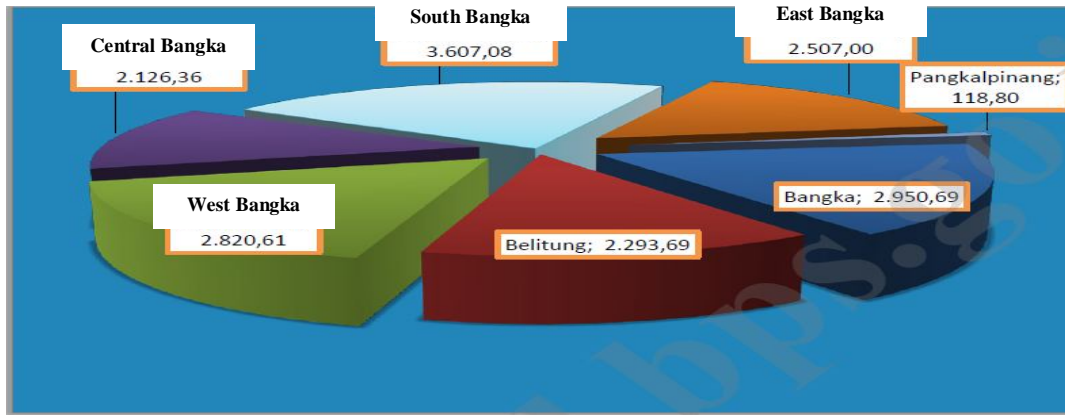
Figure 2. Regional Area of Regency/City in Bangka Belitung Islands Province

4.2. Estimation Model

Selection to the best model in this research was conducted by testing the models using Chow test, Hausman test, and Lagrange Multiplier (LM) test. Thus, it would be found the appropriate model.

4.2.1 Chow Test

The result of Chow Test obtained probability value (Prob.) of F cross-section towards equation model of economic growth for 0.0011. It means that prob.value F < 0.05 and Ho unconfirmed. Thus, it was concluded that the best regression model in this research for economic growth model was estimation using Fixed Effect or it could be stated that Fixed Effect model was more appropriate to be used in this research than Common Effect model.

4.2.2 Hausman Test

The result of Hausman Test obtained probability value (Prob.) of Cross-Section Random towards equation model of economic growth for 0.0000. It means that probability (Prob.) Cross-Section Random < 0.05 and Ho unconfirmed. Thus, it could be stated that Fixed Effect model was more appropriate to be used in this research than Random Effect model.

4.2.3. Lagrange Multiplier Test

The result of Lagrange Multiplier (LM) test obtained prob.value Breusch-Pagan towards economic growth equation for 0.0001. It means that probability value (Prob.) of Cross-Section Random < 0.05 and Ho unconfirmed. After conducted by two tests, Chow test and Hausman test, it could be stated that Fixed Effect method was the most appropriate to be used in this research. The test result as follows:

Table 1.1. Test Result of Panel Data using Fixed Effect

Variabel Dependen	Variabel Independen	Koefisin Regresi	Standar Error	Statistik t	P-Value
PE	C	4,068211	0,33399	12,18052	0,0000
	BIP	-0,0000693	0,000023	-3,01676	0,0037
	BBJ	-0,0000972	0,0000545	-1,78256	0,0794
	ISP	0,0000180	0,0000005	3,577394	0,0007
	UUP	0,000203	0,000123	1,652592	0,1033
	TKp	0,0000564	0.0000139	4.054684	0.0001

After conducted by statistical test, it could be created mathematic model from the effect of tourism development to economic growth in Bangka Belitung Islands Province as follows:

$$PE = 4,0682 - 0,0000693BIP - 0,0000972BBJ + 0,0000180ISp + 0.000203UUp + 0,00000564TKp.$$
$$(-3,01676) \quad (-1,78256) \quad (3,577394) \quad (1,652592) \quad (4.054684)$$

The result of simultaneous test (F test) towards significance of equation model of economic growth had prob.value (Fstatistics) 0.0000. It means there was simultaneous effect between independent variable (BIP [infrastructure expenditure], BBJ [goods-service expenditure], ISp [private investment], UUp [tourism business unit] and TKp [tourism labor]) to the dependent variable (PE [economic growth]). The goodness of regression model also could be seen from small Root Mean Squared Error (RMSE) value (not valued as tens or more) where RMSE = 0.01460

While, the result of partial test as follows:

1. There was negative and significant effect of infrastructure expenditure to the economic growth at α 0.5 %. It means that if infrastructure expenditure improves for 1 billion rupiah, then economic growth will decrease for 0.0000693%, vice versa.
2. If tourism private investment decreases for 1 billion rupiah, then economic growth will decrease for 0.000018%. The result of partial test showed that the increase of 1 thousand people will increase economic growth for 0.0000564%, vice versa.
3. There was partial effect of tourism labor to the economic growth. If tourism labor decreases for 1 thousand people the economic growth will decrease for 0.0000564%, vice versa.
4. There was no significant effect of tourism business unit and goods-service expenditure to the economic growth at α 0.5 %.

V.   Conclusion and Recommendation
5.1.   Conclusion
1. Tourism infrastructure expenditure allocation stated as inappropriate (unable to reach the target). It means infrastructure development conducted by regional government from 2005-2015 still unable to reach target which directly supports tourism activities.
2. Regional government has been able to bring private investors to conduct investment in Bangka Belitung Islands Province, for instance., hotel, cottage, resort, recreation facilities investment, and so forth as tourism activity supports that effected to the improvement of regional economic growth.
3. Tourism labours, today, through the productivity and received wage havebeen able to give contribution to the economic growth.
4. Tourism business unit available today mostly still in small or micro scale with very limited capital. The products still use traditional technology, thus the output still limited and less varied and unable to affect economic growth.
5. Goods-service expenditure is representation of tourism promotion and marketing in which it is still unable to increase number of tourist visits and consumption although it is expected to affect regional economic growth. The increase of tourist visits each year is not due to goods-service expenditure of promotion spent by the government; however, there are other factors such as spontaneous promotion from booming event of "Laskar Pelangi" movie.

5.2.   Recommendation
1. Policy that need to be considered is the establishment and expenditure allocation to the development of tourism sector, either tourism infrastructure expenditure or promotion expenditure that should be established in percentage value of APBD (Regional Government Budget) each regency/city.
2. Tourism business exists today should improve the skills, innovation, and technology, thus, it can produce various products that have better quantity and quality as well as regional government should facilitate business actors to develop their business by giving assistance in marketing, capital, and guidance.

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