

Trend on Local Revenue on Tourism and Agriculture in Jember

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Abstract. Jember is one of the districts with various object tourisms consisting of beach, mountain, waterfall, agro and cultural tourism destinations. Agriculture also provides the biggest revenue for Jember. Therefore, research on the trend on local revenue on tourism and agriculture along with its contribution on the local revenue needs to be conducted. This descriptive qualitative research aims at knowing the contribution of tourism, the trend of revenue in this district and predicting its income where the data was analyzed by using proportionality analysis and trend analysis by utilizing Least Square method.

Keywords: Trend Analysis; Revenue Sector; Macro Economy

1 Introduction

Economy growth to improve the society's prosperity which can be developed from different fields such as economy, politics, environment, social and culture is an obligation for every district to do. The optimalization of each district's resource covering natural resources and human resources is expected to impact on the revenue which can be viewed from the number and how optimal the district manages its resources, especially in tourism and agriculture [1]. The local government has been developing the tourism sector to improve its revenue and maximizes its potential to become one source having less impact on its environment. Tourism, nationally or internationally, improving each year, should also be optimized to become the resource in preserving the result of the ancient culture [2,3].

As one of the tourism destinations in Indonesia, Jember can optimize its potential from hotel, restaurant, art and recreation sector, supported by 65 tourism objects in which 4 are managed by the local government in 2017, 51 hotels and improving visitors each year (1.994.924 in 2017) [6]. The income from tourism sector is improving from 2011-2017 (Rp 7,2 billion in 2011 to Rp. 20,6 billion in 2017) because of the management done by the local government involving stakeholders dan the related departments. Meanwhile, from the agriculture sector, Jember is a growing agriculture district in East Java and contributes the highest Gross Regional Domestic Product (GRDP) with plantation commodity giving the highest contribution for the last few years [3,4].

In Jember, agriculture grows from some commodities including food crop commodity, plantation, fishery, poultry and service on agriculture which becomes the resource of the improved GRDP besides the geographical location. There are 9 sectors supporting GRDP in

Jember including: (1) agriculture, (2) mining, (3) processing industry, (4) electricity, gas and clean water, (5) building, (6) commerce, hotel and restaurant, (7) transportation and communication, (8) financial, and (9) other sectors [7].

2 Research Method

The design of this research is descriptive quantitative in which the analysis describes the real situation or condition based on the data. The proportionality analysis was utilized to know the contribution of tourism and agriculture sectors. Meanwhile, analysis trend was applied to see the revenue trend and forecast the revenue coming from the sector of tourism and agriculture. The data were obtained by using documentation.

3 Results and Analysis

The growth of Jember revenue is supported by the vast growth in tourism sector which includes the availability of 65 tourism objects and 51 hotels. They are expected to be able to increase the number of the visitors coming to Jember which eventually will improve the economy of the society and the local revenue in Jember [7].

The improvement of the revenue growth from 2011-2017 can be seen in table 1 below:

Table 1. The development of the target and its realization in term of tourism in Jember in 2011-2017

No.	Year	Target (Rp)	Realization (Rp)
1.	2011	5.968.956.000	7.234.391.072
2.	2012	7.684.000.000	9.517.896.662
3.	2013	9.366.800.000	11.573.002.599
4.	2014	11.819.400.000	14.381.226.334
5.	2015	12.381.120.000	14.551.481.334
6.	2016	16.055.500.000	17.879.924.324
7.	2017	19.187.400.000	20.620.899.872

Source: Government tourism office (2011-2017)

The contribution of tourism on the local revenue in Jember in 2011-2017 was analyzed by applying the formula of proportionality in which the result can be seen in table 2 below.

Table 2. The percentage of contribution of tourism on the local Revenue in Jember in 2011-2017

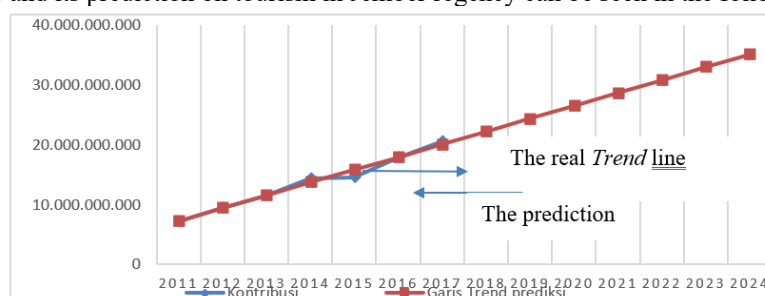
No	Year	Revenue on tourism (Rp)	Local Revenue (Rp)	Contribution
1	2011	7.234.391.072	182.797.340.158	3,96 %
2	2012	9.517.896.662	255.804.775.083	3,72 %
3	2013	11.573.002.599	308.383.350.304	3,75 %
4	2014	14.381.226.334	441.605.617.222	3,26 %
5	2015	14.551.481.334	462.457.671.769	3,15 %
6	2016	17.879.924.324	524.137.897.016	3,41 %
7	2017	20.620.899.872	719.105.671.347	2,87 %

The table revealed that tourism sector in Kabupaten Jember increases from 2011 to 2017. Dealing with this finding, it can be said that the increasing revenue from tourism will also increase the local revenue in Kabupaten Jember. Trend analysis using Least Square Method was applied to know the revenue in tourism in Kabupaten Jember in the last 7 years, 2011-2017. This analysis was also used to predict the revenue from this sector in the following years. Calculation of Trend on the revenue and prediction on its revenue on tourism in Kabupaten Jember in 2011-2024 can be seen in the following table.

Table 3. The Calculation of Trend on the revenue and prediction on its revenue on tourism in Kabupaten Jember in 2011-2024

No	Year	X	$Y' = 13.679.831.742 + (2.137.930.731 \times X)$
1	2011	-3	7.266.039.550
2	2012	-2	9.403.970.281
3	2013	-1	11.541.901.011
4	2014	0	13.679.831.742
5	2015	1	15.817.762.473
6	2016	2	17.955.693.203
7	2017	3	20.093.623.934
8	2018	4	22.231.554.665
9	2019	5	24.369.485.395
10	2020	6	26.507.416.126
11	2021	7	28.645.346.857
12	2022	8	30.783.277.587
13	2023	9	32.921.208.318
14	2024	10	35.059.139.049

Table 3 shows us the result of the calculation of trend on tourism in 2011-2024. It consists of the calculation of trend on the revenue from 2011-2017 (7,27 billion in 2011 and 20,09 billion in 2017) and its prediction in 2018 (22,23 billions) and 35,06 billion in 2024. The data on trend on revenue and its prediction on tourism in Jember regency can be seen in the following graph.



Picture 1 shows us the graph of trend on the real revenue (the blue line), and the trend on its prediction (the orange line) on tourism sector in Kabupaten Jember in 2011-2024. The graph shows us that the real trend in the last 7 years from 2011-2017 always increases but in 2015 the revenue from the tourism sector does not improve too much because of the 0,99% decrease in term of subsector Retribution of Tourism Objects and Sports.

Meanwhile, the other subsectors improved compared with the previous years (Bapeda Kabupaten Jember, 2015). In term of prediction on the revenue from tourism in Kabupaten Jember, it increases from 2011-2024 [3,5]. The revenue on agriculture was calculated by analyzing the data on GRDP from 2012 – 2016 by applying time series having 5 as the value (n). The result can be seen in the following table.

Table 4. The Trend Analysis on GRDP of Agriculture in Jember Regency

Year	Production (Y)	Series (X)	X.Y	X (square)
2012	31.78	-2	-63.56	4
2013	31.06	-1	-31.06	1
2015	30.66	1	30.66	1
2016	30.25	2	60.5	4
Total	154.49	0	-3.46	10
Average (a)	30.90			
(b)	-0.35			

The data was obtained from the calculation on GRDP on agriculture in Kabupaten Jember, where $a = 30,90$ and $b = (-0,35)$. In general, the similarity is that $Y = 30,90 - 0,35x$. It can be seen in table 5.

Table 5. The Result of Trend of GRDP In Kabupaten Jember

Year	Equation	A	b	x	Prediction on <i>Trend</i> of Production (percentage)
2012	$y = a + b x$	30.90	-0.35	-2	31.6
2013	$y = a + b x$	30.90	-0.35	-1	31.25
2014	$y = a + b x$	30.90	-0.35	0	30.9
2015	$y = a + b x$	30.90	-0.35	1	30.55
2016	$y = a + b x$	30.90	-0.35	2	30.2
2017	$y = a + b x$	30.90	-0.35	3	29.85
2018	$y = a + b x$	30.90	-0.35	4	29.5
2019	$y = a + b x$	30.90	-0.35	5	29.15
2020	$y = a + b x$	30.90	-0.35	6	28.8
2021	$y = a + b x$	30.90	-0.35	7	28.45

Source: Analyzed data, 2018

From the above table it can be seen that the prediction of GRDP in 2017 is 29,85% which is lower than the previous year, that is 30,2%. Meanwhile, its prediction in 2018 is 29,5% which is lower than the previous year and it reaches 28,45 in 2021. It can be concluded then that a fluctuating decrease happens on GRDP on agriculture for the next 5 years. It can also be predicted that it can decrease further or even it can become minus in the following years.

The proportionality analysis is applied to test how high the contribution of agriculture is on the GRDP in Kabupaten Jember in 2012-2016. This analysis refers to the previous data, that is the data on the analysis of the prominent sector or its commodity along with the data on GRDP on agriculture in 2012-2016.

Table 6. The Result of Proportionality Analysis on Agriculture

NO	Agriculture Sector	GRDP on Agriculture	Total on GRDP	Percentage	Result
1	Crop	40.64	154.49	100%	0.26

2	Horticultural Crops	13.85	154.49	100%	0.09
3	Plantation Crops	56.54	154.49	100%	0.37
4	Farming	26.34	154.49	100%	0.17
5	Service on Agriculture and Hunting	1.63	154.49	100%	0.01
6	Forestry	4.84	154.49	100%	0.03
7	Fishery	21.95	154.49	100%	0.14
	Total	165,79	1.081,43		1,07

Based on the above table, the contribution of plantation crop as the potential commodity in Jember is 0,37% from its GRDP, followed by crop as the second biggest commodity, that is 0,26% and the third one is farming, which is as much as 0,17% from the total GRDP of Jember in 2012-2016. The total contribution of agriculture sector during these years is as much as 1,07%.

4 Conclusion

The revenue from tourism always increases every year, yet, the contribution to the GRDP in the last seven years is not constant. The biggest contribution of tourism towards GRDP in Jember happened in 2011 that was as much as 3,96%. This happened because the other sectors did not contribute so much in GRDP. The least contribution happened in 2017 that was as much as 2,87%. The contribution of agriculture toward GRDP in Jember is also high so that it needs the government's intervention to manage them. The analysis of Trend on agriculture showed that it decreased for the past 5 years. Its predictions in 2017 and 2018 were lower than the previous years. It was 29,85% in 2017 which was lower than that in 2016 (30,2%) and 29,5% in 2018 and always decreases from 2019 up to 2021 (28,45) if the government does not interfere in this sector).

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