

# Analysis of Sectoral Economic Growth On Poverty Province Of Central Java (2010-2015 Period)

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**Abstract.** This study aims to analyze whether sectoral economic growth has a partial and simultaneous effect on poverty in the province of Central Java. In this case, the sectoral variables are divided into 3 groups, namely the primary sector, the secondary sector and, the tertiary sector. This research was conducted to find out which sector variables had the most influence in reducing poverty in Central Java for the period 2010-2015. Central Java is one of the Provinces in Indonesia which experiences a decrease in poverty every year (Time Series), but Cross Section poverty in several districts still varies, therefore it is necessary to have closer research on the area (District / City). Many studies have been carried out by previous researchers who stated that economic growth will have a negative impact on reducing poverty, but from previous studies only examined the variables of global economic growth. This research was conducted because the variables used were variables that had never been used by previous researchers, namely dividing economic growth into 3 parts sectoral groups to be more specific. The research methodology used is a panel data regression test.

**Keywords:** Poor Category, Economic Growth, Poverty, Primary Sector, Secondary Sector, Tertiary Sector

## 1. INTRODUCTION

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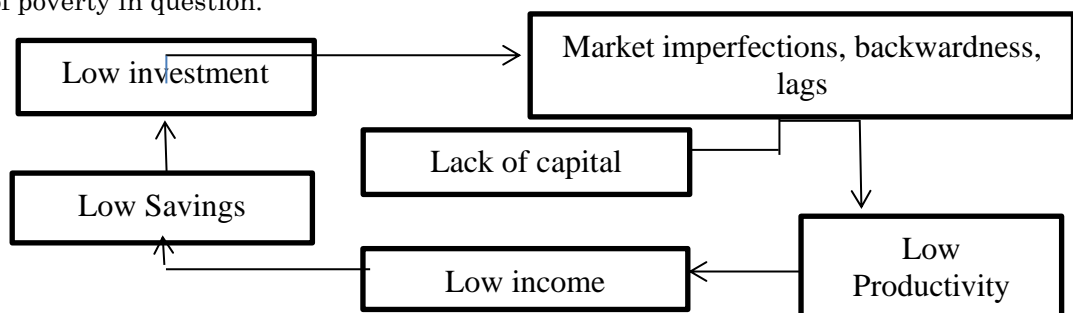
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Economic growth and poverty are important indicators to see the success of a country's development. Poverty is a multidimensional problem that must be resolved to reduce widespread adverse effects such as low education and crime, the problem of poverty is a problem that must be faced together not only the responsibility of the central government but also from the local government in alleviating the problem of poverty this. Therefore one of the targets of national development is to overcome the problem of poverty and inequality.

Poverty is defined as the inability to meet minimum living standards. Measures of poverty are considered based on certain norms. These norm choices are important in terms of measuring poverty that is made aware of consumption, the consumption-based poverty line consists of two elements, namely: (1) expenditure needed to buy minimum nutritional standards and other basic needs; and (2) the number of other needs that are very varied which reflects the costs of participation in people's daily lives (Kuncoro, 1997: 123).

Kuncoro (2003: 131-132) cites Sharp, et al's opinion that there are 3 factors that can cause poverty from an economic point of view. First, micro-poverty arises because of the inequality of resource ownership patterns that lead to unequal income distribution. The poor have only limited resources. Second, poverty arises from differences in the quality of human resources. Low quality is characterized by productivity which in turn low wages. Third, poverty arises due to differences in access to capital.

These three causes of poverty lead to the theory of the vicious cycle of poverty (vicious circle of poverty). The existence of backwardness, market imperfections, and lack of capital have caused low productivity. Furthermore, low productivity results in low income received. This low income will have implications for low savings and investment. And the low investment in the next stage has an impact on backwardness and so on. Here is a vicious circle of poverty in question.



Source: Kuncoro, (2003: 132)

Figure 1.1 The Vicious Circle of Poverty

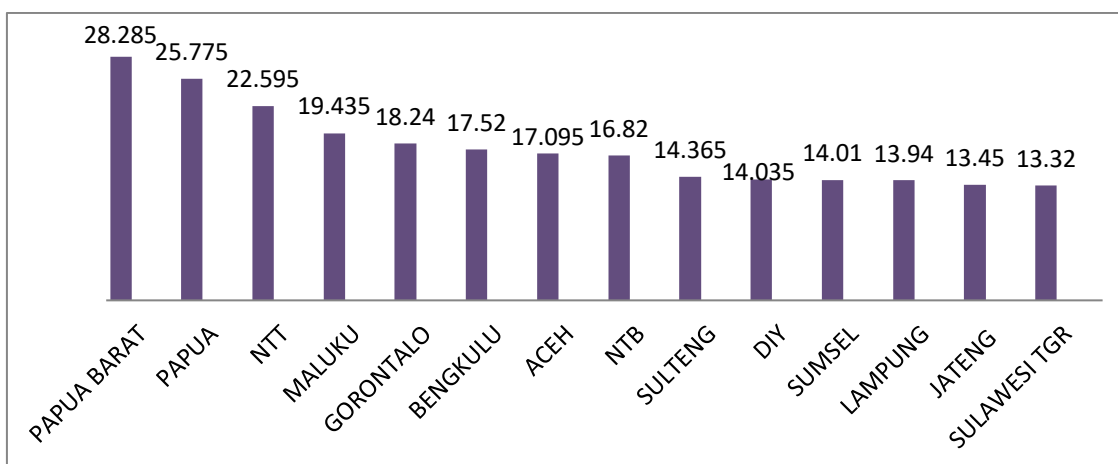
According to BPS data (2015), the number of poor people in Indonesia reached 28,553,180 people or 11.17 percent of the total population, therefore the reduction in poverty rates must be a priority program. The following are data on the number of poor people in Indonesia.

**Table 1.1**  
**Poverty in Indonesia 2010 - 2015**

No	Year	Amount (Million Souls)	Percentage
1	2010	31.023.390	13,33
2	2011	30.018.930	12,49
3	2012	28.863.520	11,81
4	2013	28.310.265	11,42
5	2014	28.003.895	11,10
6	2015	28.553.180	11,17

Source: Central Statistics Agency, 2018

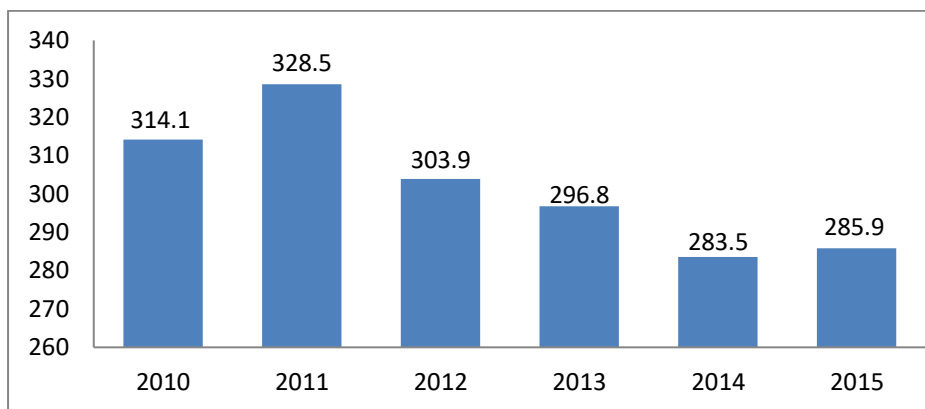
From Table 1.1 it can be seen that the poverty rate in Indonesia continues to decline from year to year starting from 2010 as many as 31,123,390 people (13.33 percent) to date in 2015 as many as 28,553,180 people or (11.17 percent), but in 14 provinces in Indonesia the percentage of poverty is still above the national poverty rate including Central Java. The following is data on poverty by the province that exceeds the national poverty percentage.



Source: Central Statistics Agency, 2018

**Figure 1.2**  
**Percentage of Poverty in 14 Provinces in Indonesia**  
**Exceeding the National Poverty Rate**

It can be seen from the picture above that Central Java is in the 14th position which includes poverty above the national poverty level of in 2015. Central Java from year to year is quite successful in reducing the number of poor people, this can be seen in Figure 1.3 below.



Source: Central Statistics Agency, 2018

**Figure 1.3**  
**Central Java Poverty 2010-2015 (thousand people)**

Figure 1.3 shows that the time series in the number of poor people in Central Java experienced a significant decline beginning in 2010 with a total of 314,100 people and continuing to decline to 285,900 in 2015 (BPS, 2018). However, if viewed in a cross-section the poverty rate in Central Java between regencies/cities still varies, this indicates the need for poverty alleviation at the district/city level.

In economic development in every province including Central Java, one of the strategies to reduce poverty is through economic growth. There are three main pillars of poverty reduction strategies, namely (Tambunan, 2001: 100):

1. Sustainable economic growth and pro-poverty
2. Good governance
3. Social development

In reducing poverty, high economic growth in each sector is very important, the higher the economic growth, the poverty rate decreases (Kuncoro, 1994: 172). The results of

empirical studies conducted by Mills and Pernia (in Tambunan, 2011) with cross-country analysis methods show that poverty in a country will be lower if its economic growth in previous years is high and the higher the rate of GDP growth the faster the poverty rate will decline. Many researchers concluded the negative relationship between economic growth and poverty for example (Suumual, 2016).

The economic sector in the Indonesian economy is divided into nine business fields, but in 2010 BPS split several business fields and added to 17 from the original nine business fields. The eight new business fields include water supply, big trade and retail, car and motorcycle repair; provision of accommodation and eating and drinking; real estate; government administration, defense, and social security is mandatory; education services; health services and social activities; and other services. Sectoral change in GRDP is one of the things that attracts researchers to conduct research.

Sukirno in Prasetya (2017: 4), explains that based on the business field, the economic sectors in the Indonesian economy are divided into three main groups, namely:

1. Primary sector, which consists of agriculture, livestock, forestry, fisheries, mining and, quarrying sectors;
2. Secondary sector, consisting of processing, electricity, gas, water, waste and recycling waste, construction buildings;
3. The tertiary sector, consisting of large and retail trade, hotels, restaurants, transportation, warehousing, and communication, finance, leasing, insurance and corporate services, other services (including government), accommodation providers to eat drinking and real estate;

The existence of sectoral changes in the GRDP makes the increasing employment of new sectors added to the GRDP. This will increase income for the community and ultimately reduce poverty.

This study took place in Central Java, arguing that poverty in Central Java Province had the second-highest poverty rate on Java, which amounted to 13.45 percent after the D.I Yogyakarta, which ranked first at 14.03 percent. The data used is in 2010-2015 wherein 2010 was the first year of change between the addition of 9 sectors to 17 sectors. Based on the description of the above problems, thus, the research questions are formulated as follows:

1. What is the influence of the primary sector on poverty in 35 Central Java Districts / Cities in 2010-2015?

2. What are the effects of the secondary sector on poverty in 35 Central Java Districts / Cities in 2010-2015?
3. What is the effect of the tertiary sector on poverty in 35 Central Java Districts / Cities in 2010-2015?

## **2. METHODOLOGY**

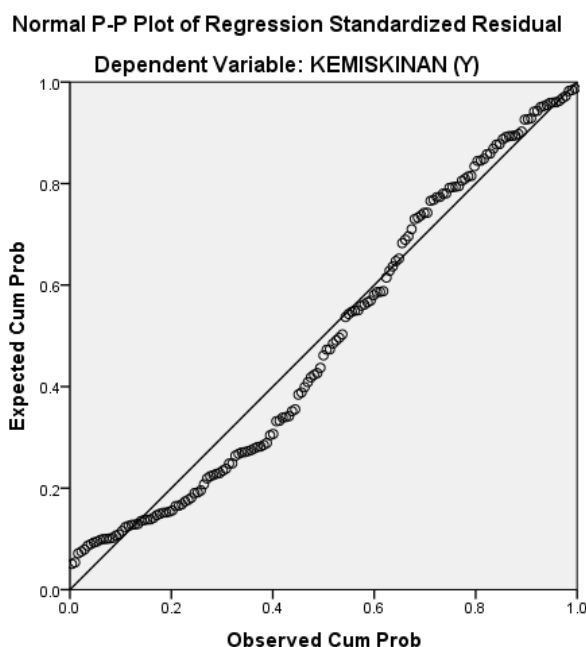
This study uses a quantitative approach because it is based on data in the form of numbers and processed using statistical methods to test hypotheses. In this study, there are 3 types of variables, namely the independent variable in the form of the primary sector (X1) and the secondary sector (X2) and the tertiary sector (X3) the dependent variable in the form of poverty (Y). Data sources in this study were derived from BPS publications so that the documentation method was used in data collection. The data used are classified as time-series data, namely in the period 2010 to 2015 in the province of Central Java.

The data analysis technique is done by a regression method. In order for the model to be used properly, an assumption test is carried out which includes tests of normality, multicollinearity, heteroscedasticity, and autocorrelation. In addition, statistical tests are also used to measure the ability of the model in explaining the dependent variable in the form of the F test, and the t-test.

## **3. RESULTS AND DISCUSSION**

### **1. Normality test**

According to Imam Ghozali (2011: 161), the regression model is said to be normally distributed when plotting data (dots) that describes the data actually follows the normal line



**Figure 1.4**  
**Normal P-P Plot of Regression Standardized Residual**

From the picture above it can be seen that the point follows the diagonal line, the regression model is normally distributed.

a. Multicollinearity Test with Tolerance and VIP Methods

According to Imam Ghozali (2011: 107-108), there is no multicollinearity if the value of Tolerance is  $> 0.100$  and  $VIF < 10.00$ .

Variabel	Koefisien B	t statistik	P-Value	VIF
(Constant)	0.905	0.080	0.937	
SEKTRPR (X1)	0.660	2.856	0.005	35.449
SEKTSEKUNDR(X2)	0.344	0.755	0.452	51.459
SEKTERS(X3)	0.813	0.650	0.516	30.603

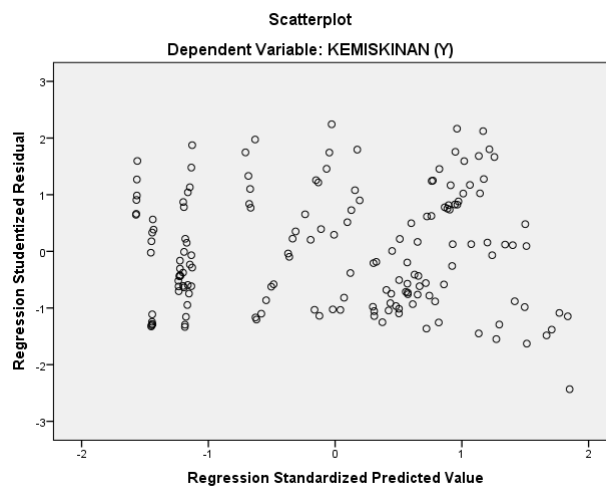
Dependent Variable: KEMISKINAN (Y)

From the results of the data analysis above, it can be seen that the values of Tolerance for X1 are 0.028, X2 0.019 and X3 0.033 which means that it is smaller than the tolerance limit according to ghozali which is  $> 0.100$  and for VIF X1 values 35.499. X2 51,459 and X3 of 30,603

means that the value of VIF is greater than the maximum limit of the value of VIF that should be <10.00 which means that the results of this analysis occur symptoms of multicollinearity.

b. Heteroscedasticity Test for Scatter Plots

According to Imam Ghozali (2011: 139), there is no heteroscedasticity if there is no clear pattern (wavy, widened and then narrowed) on the scatterplots image, and the points spread above and below the number 0 on the Y-axis.



**Figure 1.5**  
**Heteroscedasticity Scatterplot Test**

From the picture above, it can be seen that the points on the picture look random and random and the points are at and below zero, thus the assumption for testing heteroscedasticity has no symptoms of heteroscedasticity according to the quote from Imam Ghozali.

c. Autocorrelation Test Using Dw

According to Imam Ghozali (2011-111), there is no symptom of autocorrelation if the value of Durbin Watson lies between  $du$  to  $(4-du)$ .

Model	R	R <sub>2</sub>	Adj R <sub>2</sub>	DW
1	0.712	0.507	0.498	0.308

From the results of the calculation of the above data based on  $k$  (3) and  $N$  (161) with a significance of 5% then the  $du$  in the DW table is equal to (1.7804) < Durbin Watson (0.308) according to the literature that the DW value must be at  $du = 4 - du$  the result is 2.2196. These results can't be in accordance with the theory in the literature, it can be concluded that panda autocorrelation occurs in this analysis

d. Partial t-Test (Multiple Linear Regression)



According to Imam Ghozali (2011: 101), if P.Value <0.05 then it means that the independent variable (X) partially influences the dependent variable (Y). from the results of the results of spss can be seen for each variable value P.Value X1 of 0.005. X2 is 0.452 and X3 is 0.516 which means that X1 partially affects Y, while X3 does not affect Y because it is greater than 0.05 while X3 does not affect Y because it is greater than 0.05.

e. Partial t test based on Value (t count and t table)

According to Sujarweni (2014: 155), if the value of t count > t table then the meaning of the independent variable (X) partially affects the dependent variable (Y). to t count the value already known through spss analysis. To find the table, the formula  $t_{table} = (\alpha / 2; n-k-1) = (0.05 / 2; 161-3-1) = (0.025; 157) = 1.97519$

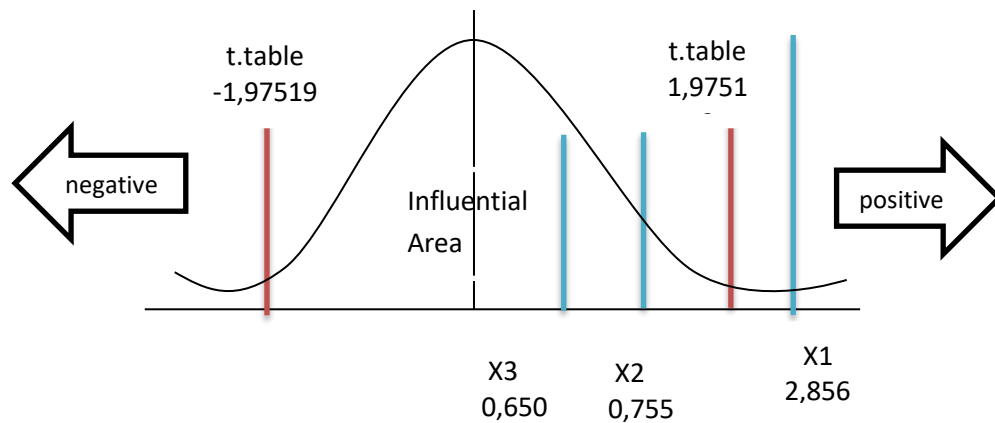


Figure 1.6

Partial t-test results

From the above curve, it can be concluded that the t-test is partial that X1 has a positive effect on Y. whereas for X2 and X3 it does not affect Y

f. Simultaneous f test (Multiple Linear Regression) based on value.

According to Imam Ghozali (2011: 101) if P.Value 0.05 then it means that the independent variable (X) simultaneously affects the dependent variable (Y). The results of the F test obtained an F count value of 53,897 with P.Value value = 0,000. This value shows the independent variable X1 primary sector, X2 Secondary sector and X3 Tertiary sector together have an effect on the dependent variable (Y). To calculate the value of f count and f table according to V. Wiratna Sujarweni (2014: 154), if the value of Fcount > Ftable means that the independent variable (X) together affects the dependent variable (Y), then the following formula is used  $F_{table} = (k; nk) =$

$(3: 161-3) = 2.66$  (can be seen in f table). Because F count is greater than F table, X1, X2, and X3 have an effect on (Y).

#### 4. CONCLUSION

Based on the results of the analysis and discussion of the data, the authors obtained conclusions that can be drawn from the research on the Analysis of Sectoral Economic Growth Against Poverty in Central Java in 2010-2015 as :

1. Primary Sector Variables have a positive and significant influence on the Poverty Level in Central Java. That is, an increase in the growth rate in the primary sector will increase the Central Java Poverty Level.
2. Secondary Sector Variables do not affect the Poverty Level in Central Java. That is, the increasing or decreasing economic growth in the secondary sector will not affect the level of poverty in Central Java.
3. Tertiary Sector Variables do not affect the Poverty Level in Central Java. It means that the high economic growth rate in the tertiary sector does not affect the Poverty Level in Central Java.
4. Variables X1, X2, X3 simultaneously influence the level of poverty in Central Java.

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