

ANALYSIS OF POVERTY LEVEL IN DISTRICTS/CITIES OF CENTRAL JAVA

Setyo Novianto¹, Heri Sudarsono²

Department of Economics, Faculty of Economics, Islamic University of Indonesia
Email: setyonovianto1@gmail.com, heri.sudarsono@uii.ac.id

Abstract

This study aims to determine the effect of economic growth, HDI, inflation, and unemployment to poverty level in Central Java regency / city. The method of analysis used in this study is a method of panel data analysis combination between time series with cross-sectional analysis as a data processing tool using Eviews 9. The model chosen in this research is the random effect model. The result of regression model of random effect shows that economic growth, ipm, and inflation have negative effect on poverty level. While unemployment positively affect the level of poverty. For F test, the variable of economic growth, HDI, inflation, and unemployment together (simultaneously) have an effect on poverty level.

Keywords: poverty level, HDI, inflation, unemployment

INTRODUCTION

One of the ways to enhance the welfare of society is by eradicating poverty. Poverty happens due to the lack of income and assets to fulfill the basic needs including food, cloth, house, health care, and education. Eradicating poverty needs not only economic approach but also social, cultural, and political approach (Susantri, 2015). Therefore, government needs to arrange an integrated strategy to eradicate poverty in every region in Indonesia which has an identical characteristic

and economic potential (Leasiswal, 2013).

Government has made a program to tackle poverty which consist of several schemes. The program is including Special Market Operation, RASKIN, PKH, social security network, BLT, PNPM, etc. (Widiastuti & Yusuf, 2012). However, not all of the program runs effectively to eradicate poverty due to citizens' identification problem, regional mapping, and program management in every region.

Central Java is categorized as a region with a high poverty level compared to other provinces in Indonesia. Poverty level in Central Java is seen by the existence of people who cannot afford the basic needs daily. Besides, the unemployment level in several districts in Central Java (such as Pati, Brebes, Cilacap, and Tegal) is relatively high (Nurmainah, 2013). In addition to that, the total population is higher than that in other regions, and the low level of illiteracy leads to a high level of poverty in Central Java (Puspita, 2015).

Based on the percentage of poor people, Central Java is placed on the 12th rank among 34 provinces in Indonesia by 2016. Compared to other five provinces in Indonesia, the average poverty level in Central Java placed on the second rank after DI Yogyakarta with the average poverty of 14.44%.

Various policies and programs have been executed pretty well by both regional and national government for eradicating poverty. Nonetheless, it is still far from the core problem and the result is not satisfied yet.

Table 1. Percentage of Poverty for Six Provinces in Java Island

Province	2011	2012	2013	2014	2015	2016	Average
DI Yogyakarta	16,08	15,88	15,03	14,55	13,16	13,10	14,94
Jawa Tengah	15,76	14,98	14,44	13,58	13,32	13,19	14,44
Jawa Timur	13,85	13,08	12,73	12,28	12,28	11,85	12,84
Jawa Barat	10,65	9,88	9,61	9,18	9,57	8,77	9,78
Banten	6,32	5,71	5,89	5,75	5,75	5,36	5,83
DKI Jakarta	3,75	3,70	3,72	4,09	3,61	3,75	3,77

Source: Central Statistics Agency of Central Java, 2017

Table 1 shows the results of the efforts of Central Java government in tackling poverty have shown good results. The number of poor and the percentage of poverty in Central Java in the past six years has been declined, although the poverty rate in Brebes, Purbalingga,

Rembang, Kebumen and Wonosobo in 2011 to 2016 is still above 20%. The lowest economic growth is in the area of Cilacap, Kudus, and Grobogan where economic growth from 2011 to 2016 is still below 4%. Wonosobo, Kebumen, and Purbalinga are categorized as regions

with high poverty rate and low economic growth. While of the lowest level of HDI are in Pemasang, Brebes, Banjarnegara and Tegal where the average rate is under 65%. Contrary, of the highest HDI are in Semarang, Salatiga, Surakarta and Magelang with an average rate above 70%. While inflation shows a fluctuating trend from 2011 to 2016, the highest inflation has occurred in Jepara in 2014 with a value of 9.87% while the lowest ever occurred in Tegal and Semarang in 2012 with an inflation rate of 0.4%. The highest unemployment rate in Tegal, Brebes and Salatiga with rate above 8%.

Big cities like Semarang, Magelang, Surakarta tend to have high HDI and also high inflation. Unemployment in Tegal, Brebes and Salatiga is quite high compared to other regions. However HDI in Tegal and Salatiga is higher than Brebes. Brebes is a region which statistically has high rate of poverty, inflation and unemployment, but low economic growth and HDI compared to other regions.

Poverty attracts the attention of many researchers who want to know about the variables that affect and cause poverty. A study conducted by Rusdarti (2013) in Central Java found that GRDP (Gross Regional Domestic Product) and public expenditure have an effect on poverty level while unemployment has no significant effect on poverty. The results of this study is similar to Duwila (2016) and Endrayani & Dewi (2016) which shows unemployment has no effect on poverty. While research conducted by Permana & Arianti (2012) in Central Java, Hartati et al (2015) in Jayapura, and Arif & Supriyanto (2017) in East Java show that unemployment has a positive effect on poverty level.

Puspita (2015) who conducted an analysis of the determinants of poverty in Central Java found that the number of poor, unemployment, GRDP and literacy level had an effect on poverty.

In Susanti, S. (2013) which observed West Java, PDRB had positive effect on poverty. While the results of Leasiwal (2013) in Maluku found results which are not in line with that of Puspita (2015) as unemployment and literacy had significant effect on poverty level.

Amalia (2012) who observed on poverty in Eastern Indonesia found that education, unemployment and inflation affect poverty level, but particularly in Eastern Indonesia unemployment has no effect on poverty. Susanto et al (2017) who observed the city of Samarinda found that the inflation had a negative effect on poverty. In contrast to Endrayani & Dewi (2016) who observed Bali province found that inflation did not affect poverty.

A research conducted by Zuhdiyaty (2017) in 33 provinces found the influence of HDI on poverty, while economic growth and unemployment has no effect on poverty. Suliswanto (2010) and Inggit & Hambarsari (2016) in East Java; Arif & Supriyanto (2017) and Wahyudi & Rejekingsih (2013) in Central Java, found similar result that

economic growth had no effect on poverty level. This finding is different from the result of research conducted by Melati & Suryowati (2018) in Central Java and Yogyakarta which found that economic growth had effect on poverty.

This research will continue the efforts to find out the problem of poverty in Central Java by analyzing the effect of economic growth, Human Development Index (HDI), inflation and unemployment rate to poverty level in Central Java Province.

RESEARCH METHOD

This research used secondary data obtained from Central Statistics Agency (BPS). The secondary data consist of cross section data from 35 Districts/Cities in the province of Central Java with time series from 2011 until 2016. The analysis method used in this research is panel data analysis method. Panel data analysis method is an analysis combination of time series and cross section (Widarjono, 2013).

The upside of data panel is that the combination of cross section and times series data may present a bigger observation, increase degree of freedom, provide bigger variability, and reduce collinearity among independent variables which could result in a more efficient econometric estimation (Gujarati, 2004).

Here is the regression equation for panel data in this study:

$$TK = \beta_0 + \beta_1 PE + \beta_2 IPM + \beta_3 INF + \beta_4 PG + \mu$$

Where TK is poverty level, PE is economic growth, IPM is human development index, INF is inflation rate and PG is unemployment level. Meanwhile B0 is constant, $\beta_1 \beta_2 \beta_3 \beta_4$ is coefficient of multiple regression and μ is error term.

There are three approaches in model estimation of panel data regression analysis which are common effect, fixed effect, and random effect (Sriyana, 2015). To decide a more relevant effect for panel data can be known by Chow

test and Hausman test. Chow test is to decide whether common effect or fixed effect which is more appropriate to estimate the panel data. While Hausman test is to decide whether fixed effect or random effect which is more appropriate.

DISCUSSION

Based on the result of Chow test, we found the probability value of chi-square $0.000 < \alpha 5\%$ which means that H0 is rejected and H1 is accepted. Thus, it can be concluded that fixed effect is more appropriate to be employed compared to common effect model.

Table 2. Result of Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.708.180	34,17	0.000
Cross-section Chi-square	8.409.544	34	0.000

Source: Data processed by Eviews v.9.

Based on the result of Hausman test, we found the probability value of $0.5584 > \alpha 5\%$ which means that H1 is rejected and H0 is accepted. Thus, it can be

concluded that random effect is more last estimation model. appropriate to be employed for the

Table 3. Result of Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.9965	4	0.5584

Source: Data processed by Eviews v.9

Table 4. Estimation Result of Random Effect Models

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PE	-0.006793	0.026626	-0.255105	0.7989
IPM	-0.761277	0.034573	-2.201.938	0.0000
INF	-0.099935	0.014204	-7.035.461	0.0000
PG	0.092779	0.032621	2.844.138	0.0049
C	6.630.324	2.557.452	2.592.551	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	3.471.614	0.9801
Idiosyncratic random	0.494933	0.0199

Weighted Statistics

R-squared	0.793390	Mean dependent var	0.800439
Adjusted R-squared	0.789359	S.D. dependent var	1.075.746
S.E. of regression	0.493720	Sum squared resid	4.997.077
F-statistic	1.968.024	Durbin-Watson stat	1.032.431
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.426453	Mean dependent var	1.377.600
Sum squared resid	2.432.022	Durbin-Watson stat	0.021213

Source: Data processed by Eviews v.9.

Inflation negatively affects the poverty level. The result shows that the regression coefficient of inflation variable is -0.099935 and the probability is 0.000 . At the level of significance $\alpha = 5\%$, the regression coefficient is significant because $p = 0,000 > 0.05$. Based on the above test result, it can be concluded that inflation proved to negatively affect poverty level. Meanwhile, unemployment has a positive effect on poverty level. The regression coefficient of unemployment is 0.092779 and the probability is 0.0049 . At the level of significance $\alpha = 5\%$, the regression coefficient is significant because $p = 0.0048 < 0.05$. Based on the above test result, it can be concluded that unemployment proved to have a positive effect on the poverty level.

Economic growth does not affect the poverty level can be explained because economic growth has not been effective in reducing the level of poverty. That is, the growth has not spread in every income class,

including in the poor. Directly, this means that growth has not occurred in sectors where the poor are working such as agriculture or labor-intensive sectors, thus economic growth does not affect poverty level. This result is consistent with the findings of Suliswanto (2010), Wahyudi & Rejekingsih (2013), Inggit & Hambarsari (2016) and Arif, & Supriyanto (2017) which show that there is no link between economic growth and poverty.

Additionally, the result also reveals that HDI proved to negatively affect the level of poverty. This result indicates that government is able to improve the quality of the occupation of Central Java through increased investment in education and health through the provision of public facilities needed by the society such as schools and hospitals. Improvement of these facilities affect the ability of society in optimizing their ability to increase revenue. These results reinforce previous research conducted by Nurmainah (2013), and Zuhdiyaty

(2017) who found that the level of human development index negatively affect the level of poverty.

Inflation rate negatively affects poverty level. This result is similar to Amalia (2012) and Susanto et al (2017). Negative relationship between inflation rate and poverty level can be explained that during research period the inflation rate in Central Java tends to increase from year to year. On the other hand, the level of poverty in the research period showed a declining trend. This situation shows that the inflation rate in Central Java is relatively controlled because it does not directly affect the society income.

Unemployment shows a positive influence on poverty levels. As it is known that unemployment will lead to various problems such as economic and social problem resulted from the absence of income that ultimately can cause the welfare of society to decline. This finding is similar with Permana & Arianti (2012), Hartati et al (2015) and Arif & Supriyanto (2017) which state that

there is a very close relationship between unemployment, poverty, and unequal distribution of income. The high unemployment rate, economically has the potential to reduce opportunities in increasing regional productivity, and socially reflects the greater burden of society.

From the coefficient, we can identify the districts/cities with the low poverty rate and the high one. The higher the value of the intercept coefficient in a district/city means the greater the district/city is experiencing poverty, and the lower the value of the intercept coefficient in a district means the smaller the district/city is experiencing poverty.

Table 5 showed that the districts/cities which have the highest coefficient value or the highest poverty level are in Surakarta, Rembang, Kebumen, and Wonosobo with the coefficient value of 5.486931, 5.342502, 5.237271, and 5.120741 respectively. This results is in accordance with Wahyudi &

Rejekingsih (2012) and Melati & Suryawati (2018).

Table 5. Random Effect Intercept for Central Java

District/City	Coefficient
Cilacap	-0.38739
Banyumas	4.679.579
Purbalingga	4.492.972
Banjarnegara	0.658837
Kebumen	5.237.271
Purworejo	2.304.656
Wonosobo	5.120.741
Magelang	-243.507
Boyolali	0.598396
Klaten	4.791.585
Sukoharjo	-0.46046
Wonogiri	-148.348
Karanganyar	2.964.285
Sragen	2.740.384
Grobogan	-0.15314
Blora	-206.555
Rembang	5.342.502
Pati	-257.588
Kudus	-34.657
Jepara	-439.102
Demak	1.496.502
Semarang	-303.668
Temanggung	-376.389
Kendal	-179.506
Batang	-5.587
Pekalongan	-230.885
District/City	Coefficient
Pemalang	-0.24333
Tegal	-744.082
Brebes	1.418.464
Magelang	0.821796

Surakarta	5.486.931
Salatiga	0.77634
Semarang	-102.417
Pekalongan	-340.474
Tegal	-2.909

Source: Data processed by Eviews v.9

The average poverty rate in Surakarta from 2011-2016 is around 11.56%, decreased from 2011 which is around 12.9% and in 2016 fell to 10.88%. While the poverty level of Rembang for 6 years is 20.64%, where 2011 reached 23.71% while the following year decreased until 2016 reached 18.54%. Kebumen shows a poverty level of 21.43% during 2011-2016, lower than the poverty rate in Wonosobo of 22.03% for 6 years. The average poverty rate in these four regions has relatively low economic growth and HDI except Surakarta which has high HDI of 79.26%. This value is higher than Semarang 79.16% and approached HDI of Salatiga 79.88%.

While the districts/cities that have the lowest coefficient values are Tegal, Batang, Jepara, and Temanggung with coefficient values of -7.440818, -5.587004, -4.391024, and -

3.763891 respectively. The average poverty rate of Tegal during 2011-2016 is 10.48% where the lowest poverty rate achieved in 2014 is 9.87%. The average poverty rate of Batang for 6 years is 11.87%, the highest one is 13.47% in 2011 with the downward trend up to 11.04% in 2016. While the average poverty rate in Jepara and Temanggung 9.05% and 12, 17% respectively.

CONCLUSION AND RECOMMENDATION

Government of Central Java needs to make a policy which trigger the achievement of economic growth by enhancing the production capacity of society in order to reduce the number of poor society. Besides, government of Central Java is expected to bring income equality to all category of poor society in every region. It needs program for eradicating illiteracy, to provide assistance or subsidy for poor people, to provide donation for establishing schools, hospital particularly in the

restricted region for an equal development to all region.

Government needs to supervise and push the inflation rate by monetary or fiscal policy. One of the examples is by lowering tax levy dynamically, increasing incentives for enterprises which run an international trade, export-import policy which positively reduce inflation rate, policy of infrastructure development which does not push enterprises, etc. Providing employment opportunity based on its own regional potentials which needs to be improved.

Based on this research, the future research needs to add variables which are in line with the provision of public infrastructures including how many government offices, how many hospitals, how many schools, how long roads, how many bridges, how many public transportations, how long electricity coverage, and the access of communication tools. These variables technically affect the poverty level particularly through human development index.

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