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Determinants of Districts Poverty in West Java in 2016-2019

[1*]Muthia Amanatunnisa, [2]Imamudin Yuliadi

Email : [1*] muthiaa04@gmail.com, [2] imamudin2006@yahoo.co.id
[1,2]Universitas Muhammadiyah Yogyakarta, Indonesia.
* *Corresponding Author*

Abstract

Poverty is the most common problem faced by every country. Poverty is when a person can't meet the necessities to fulfill their basic rights. This study aims to analyze the effect of the Human Development Index (HDI), Gross Regional Domestic Product (GRDP), Food Consumer Prices, Population, Open Unemployment Rate (TPT), School Enrollment Rates and on Poverty in Indonesia in 2016-2019. This study uses objects as many as 17 districts in West Java using panel data regression. The results showed that the Human Development Index, Population and Food Consumer Prices had a significant effect on poverty in the province of West Java. Meanwhile, the open unemployment rate, school enrollment rates and gross regional domestic product have no significant effect on poverty in the province of West Java.

Introduction

Poverty is a major problem in the world. Poverty is the inability of people to fulfill their basic rights. Therefore, the Millennium Development Goals (MDGs) are one of the government's efforts in alleviating poverty. From 1998-2012, based on the results of its implementation, it shows that the poor in rural areas contribute more to poverty levels than the poor in cities. According to the World Bank, Indonesia has been very successful in decrease the poverty rate very drastically over the last 10 years, from 40.08% in 1976 to 17.42 in 1987.

Poverty in Islam is seen as a very complex problem and is prohibited. This is explained in the word of Allah SWT in QS. An-Nisa verse 9, which means:

"And fear Allah those who, if left behind them weak children, who they worry about (their welfare). Therefore, let them fear Allah and let them speak the truth." (QS. An-Nisa: 9)

Abu Hurairah explained that poverty is someone who in his life is not able to meet the needs of foods, clothes and shelter. This is as stated in the Qur'an that faqir is identified with poverty, which is stated in the QS. Al-Baqarah verse 198 which means:

" *Satan promises (scares) you with poverty and orders you to do evil (miserly); while Allah has made for you forgiveness from Him and bounty. And Allah is Extensive (His bounty) and All-Knowing."*

The standard level of world poverty is US$2. Meanwhile in Indonesia the world poverty standard is US$1. If world standards are followed by Indonesiathere will be a drastic increase. Central Statistics Agency (BPS) explained that the poverty rate in West Java in 2015 was 28.59 million people. Meanwhile in 2014, the poverty rate was only 27.73 people. It means that there was an increase of people's poor in West Java by 0.86 million people. The percentage of people's poor in West Java from 2016 to 2019 is as follows (see figure 1):
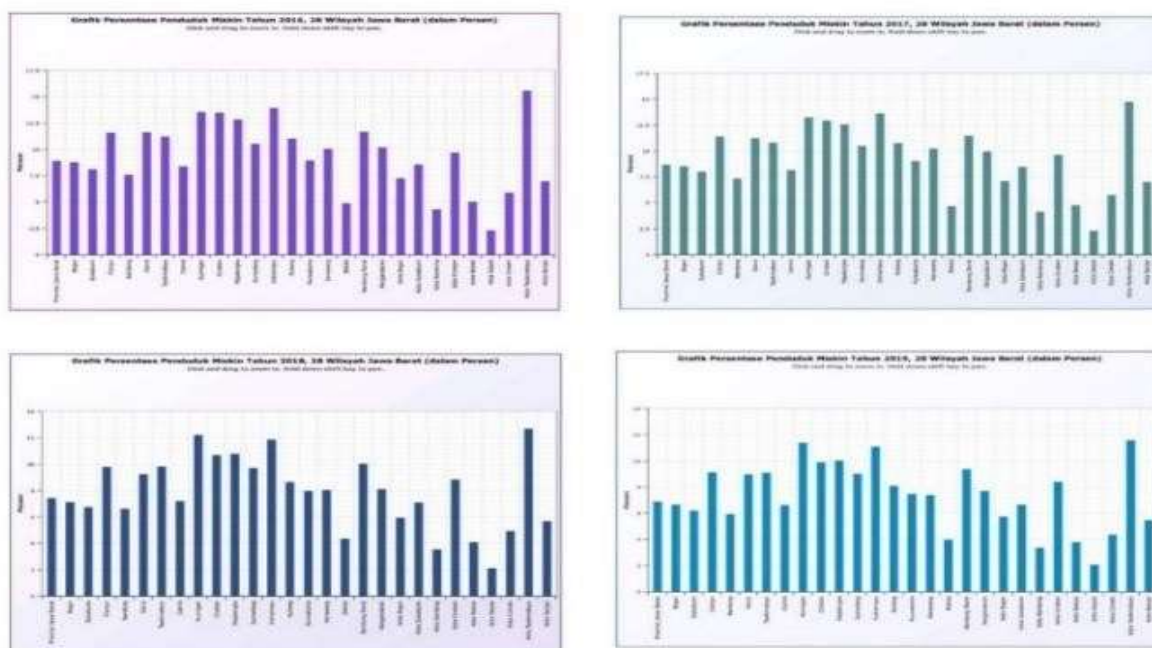

Figure 1. West Java Poverty Percentage
Source: West Java Central Statistics Agency (BPS)

Figure 1 shows that the poverty rate in Tasikmalaya is in first place from 2016-2018, which is 15.6% in 2016, 14.8% in 2017 and 12.71% in 2018. Meanwhile, Depok is at the lowest position throughout the year. Indonesia's poverty standard is below one level of the world poverty standard. That means, Indonesia is a high poverty rate.

The HDI is used to compare the development of human performance between regions & countries. This is one of the benchmarks for a region to understand the quality of its human in detail. Human wuality is greatly determines the productivity of one's performance. Based on

data from the Central Statistics Agency (2020) that the highest human development index in West Java in 2019 was Bekasi, which was 73.99%. While the lowest HDI is Cianjur at 65.38%.

The unemployment rate also needs to be considered because it has an impact on the poverty level (Oktaviani and A'yun, 2021). The low number of working people will increase the number of poverty. Unemployment causes the level of community welfare to decline (Endrayani and Dewi, 2016). Based on BPS (2020) shows that in 2019 the highest unemployment rate in West Java was Cirebon at 10.28%, followed by Cianjur at 9.72% and Purwakarta at 9.61%. Poverty is still a social problem in West Java. Based on data from the Central Statistics Agency (BPS), there are 6.82 thousand people (4.2%) of the population of West Java living below the poverty line in March 2021. While the poverty line is IDR 427.4 thousand per capita per month.

Prevention efforts in West Java are carried out through five policies, namely; First, unemployment and poverty can be carried out systemically, simultaneously and in synergy with many parties with cross-government support. Second is the need for assistance efforts to the poor in providing understanding to escape poverty. Third, the need for an agreement from the head of the OPD/Bureau (Regional Apparatus Organization) must be oriented towards poverty unemployment. Fourth, poverty unemployment through family-based integrated social assistance, self-reliance assistance, productive business development Mandiri, as well as other CSR/TJSL (Corporate Social and Environmental Responsibility) programs in partnership with the community. The fifth is West Java as an individual-based poverty reduction control tool with spatial and a-spatial data, to facilitate the search for individual data (Bapeda West Java, 2018).

Therefore, this research intends to examine determinants of poverty in West Java. This study uses the Food Consumer Prices variable which is rarely used by previous studies. In fact, food security is closely related to poverty. Poor people will find it difficult to meet their nutritional needs. Nutritious food will have an impact on the human quality. If the human quality is low, it will impact on poverty. Thus, this research gives new contribution to the previous literatures. In addition, the use of the updated year will also provide new information related to the poverty level in West Java.

Research Method

This research analyzes the influence of the Human Development Index, RGDP, Open Unemployment Rate, inflation, and population on poverty in West Java. Dependent variable in this study is poverty, while unemployment (TPT), School Participation Rate (APS), human development index (IPM), RGDP, Population, and Food Consumer Prices are independent variable. The scope used in this research covers 2016 to 2019 from 17 districts in West Java

using the panel data method. Annual data is used in this study by looking at poverty data seen from the percentage of poverty levels in West Java.

This research used secondary data and descriptive quantitative research in the form of time series. Quantitative methods were used for descriptive research for characteristics appearing in significant numbers. Quantitative descriptive research was chosen to explain the impact of unemployment, the Human Development Index, and RGDP in eliminating poverty by describing data processing results using Eviews 10. This study used secondary data from 2016 to 2019. The main source is from BPS (Central Bureau of Statistics).

The model used in this study is as follows:

$$Pov_{it} = \propto_{it} + HDI_{it} + TPT_{it} + RGDP_{it} + Pop_{it} + APS_{it} + FCP_{it} + \varepsilon_{it} \quad \dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where *Pov* is poverty, *HDI* is human development index, *TPT* is open unemployment rate, *RGDP* is regional gross domestic product, *POP* is population, *APS* is school enrolment rate, and *FCP* is food consumer price. Poverty is a condition indicated by the lack of ownership and low income to meet their needs, including clothing, food, and housing.

HDI is the foundation of living standards in all corners of this study. Knowing the development of HDI can determine the size of the impact of economic policy on a country's quality of life. TPT is a variable that used to assess labor supply that not used in the labor market. RGDP illustrates the added value of services and goods. Constant RGDP is used to determine real economic growth each year. Population is the number of people occupying a certain area which is usually influenced by birth, death, and migration rates. APS is the proportion of school at a educational level. While, FCP is one aspect of the food economy which is monitored regularly by the government. A sharp increase in prices may potentially cause social turmoil.

Result and Discussion

Data analysis was performed using regression method of panel data. It i is a combination of cross section data and time series data (A'yun and Khasanah, 2022). In the panel data regression model, it is necessary to test the selection of the best model through the Chow test, Hausman test and LM test. Chow test is used to determine the best model between the fixed effect model and the common effect model. While the Hausman test serves to determine the model between the fixed effect model and the random effect model. Then, the LM test is used to determine the best model between the random effect model and the common effect model (A'yun and Khasanah, 2022). The panel data analysis approach shows in Table 1 below:

Table 1. The Result of Model Estiomations

Variable	Common Effect	Fixed Effect	Random Effect
Constant (C)	43.40184	28.42059	24.23388
SE	8.813065	2.816192	1.960813
Prob	0.0000	0.0000	0.0000
HDI (X1)	**-0.050951**	**- 5.759700**	**-3.975756**
SE	0.083760	0.629481	0.518463
Prob	0.5452	0.0000	0.0000
TPT (X2)	0.367804	-0.009793	0.027861
SE	0.151982	0.042659	0.078424
Prob	0.0185	0.8195	0.7236
GRDP (X3)	**0.044789**	**0.004617**	**-0.010499**
SE	0.242363	0.009762	0.021271
Prob	0.8540	0.6385	0.6234
Population (X4)	**-0.350781**	**0.456202**	**-0.244373**
SE	0.127268	0.552777	0.090467
Prob	0.0077	0.0413	0.0089
APS (X5)	**0.116687**	**0.033718**	**-137759**
SE	0.057861	0.102910	0.152520
Prob	0.0481	0.07447	0.3700
FCP (X6)	**0.000359**	**- 0.289647**	**-474460**
SE	0.000292	0,079528	0.112989
Prob	0.2238	0.0007	0.0001

After analyzing the three model, the next step is to select the best model. The first thing to do is the chow test. Here are the results of the chow test:

Table 2. The Result of Chow Test

Effect Test	Statistik	d.f	Prob.
Cross-section F	73.250460	(16,45)	0.0000

Based on the results of the Chow test, it shows that the probability value is less than 0.05, which means that the fixed effect model is better than the common effect model. While below are the results of the hausman test:

Table 3. The Result of Hausman Test

Summary Test	Chi-Sq.	Chi- Sq. d.f	Prob.
Cross-section of random	20.605223	3	0.0001

Thus, the best model chosen in this study is the fixed effect model. Table 4 is the result of the fixed effect model. The coefficient of determination (R^2) value is 0.987688. It is indicated

positively that 98.76% is from poverty. The coefficient value shows that it is a 98.76% variation from the Human Development Index, Population, Open Unemployment Rate, School Participation Rate, Regional Gross Domestic Product, and Food Consumer Prices. While the remaining about 0.81% is explained by other variables outside the model (referring to Table 4).

A significant probability value is 0.0000 (referring to Table 5.6) because some of the significant probabilities show 0.0000 which is smaller than 0.05. It can be inferred that some are accepted, such as TPT, HDI, Population, RGDP, APS, and FCP altogether have a significant effect on Poverty.

Table 4. The Result of Fixed Effec Model Estimation

Variable Independent:	Model
	Fixed Effect
Constant (C)	28.42059
SE	2.816192
Prob	0.0000
LOG(HDI)	**-5.759700**
SE	0.629481
Prob	0.0000***
LOG(TPT)	-0.009793
SE	0.042659
Prob	0.8195
LOG(GRDP)	**0.004617**
SE	0.009762
Prob	0.6385
LOG(POP)	**0.456202**
SE	0.552777
Prob	0.0413**
LOG(APS)	**0.033718**
SE	0.102910
Prob	0.07447*
LOG(FCP)	**-0.289647**
SE	0,079528
Prob	0.0007***
R^2	0.987688
F-Statistic	164.0876
Prob (F-Stat)	0.000000
Durbin-Watson stat	2.585940

Note: *p<0.1 **p<0.05 ***p<0.01

From table 4, it can be seen that the Human Development Index (HDI) variable have a significant and negative effect to the poverty. The probability value is 0.0000 and the coefficient is -5.759700. Thus, it is accepted that HDI had a significant on poverty in 17 districts in West

Java from 2016 to 2019. The HDI have a significant effect on poverty, it is becaused the human development increase the employment to maximize the utilization of natural resources.

HDI is a benchmark for the development of a region that should be positively correlated with the poverty. It is expected that the high HDI value, the community life quality will be high as well. To put it simply, the high value of HDI value equals the low rate of poverty. The low HDI will make the productivity is low and leading to low income. It is because a high number of poor people (Aisyah, 2017)

This follows the theory (Zuhdiyaty and Kalgue, 2018), which reveals that the HDI has a relationship that negative effect on poverty. In theory, poverty will decrease as the life quality area increases. Zuhdiyaty and Kalgue (2018) explained that HDI have a relation with poverty. Oktaviani and A'yun (2021) in their research also explained that HDI has a negative and significat effect on poverty.

While the unemployment rate shows that has a insignificant effect to poverty (see table 4). It can be seen because the probability is more than 0.05 namely 0.8195. The theory reveals that unemployment have a corelation with the poverty. The unemployment variable has a negative and not significant to the poverty. This is due to the fact that there are some groups of people included as well, such as they are looking for work, prepare for a business, already have a job but still not start working. These results follow research by Aprilianti et al., (2015) and Oktaviani and A'yun (2021).

Next is RGDP. Based on table 4 shows that RGDP hypothesis testing was known that the probability result is 0.6385, means it is more than 0.05. It is recognized as insignificant. It means that RGDP have a insignificant effect to the poverty in 17 districts in West Java from 2016 to 2019. This result does not follow this study's hypothesis that RGDP had a significant negative impact on poverty levels. According to Sukirno (2012), a decrease in the RGDP of an area will impact the household consumption and household quality. If the income of population level is limited, so many households that poor that forced to change their basic food pattern to the cheapest food and reduced number of foods and vice versa.

An increase in RGDP that is not followed by additional employment opportunities will create inequality in the addition and distribution of income. This situation will create economic growth followed by an increase in poverty. Therefore, achieving an even distribution of income can be done by increasing job opportunities for all people of productive age. The poverty rate will decrease and income distribution will increase (Dama et al., 2016). The result follows the research conducted by Afandi et al. (2017).

While for the Population, the value of probability is 0.0413. It is means that lower than 0.05. It is obviously significant. The population has a significant positive on poverty. The positive

sign indicates that the higher the population, the higher the poverty level. In addition, the rapid population growth will cause new socio-economic problems.

This research provides results that in line with previous research by Prasetya and Kristianto (2017), which explained that there is a positive colleration between population on poverty. The results of research conducted by Mustika (2011) in Prasetya and Kristianto (2017) explained that a large population causes a large supply of labor. Unfortunately, not all workers can be absorbed in each production sector, leading them to no income to work and further into poverty.

Based on the results of testing the school participation rate hypothesis (X5), it is known that the regression coefficient is 0.033718. It means that when school participation rate increase by 1 unit, the poverty will increase by 0.033718 units. The probability value of the variable open School Enrollment Rate (X5) is 0.0744 > 0.05. Therefore, it was not significant and (H5) is rejected. To prove that the school enrollment rate has no significant positive effect on poverty is to compare between and or using a test curve. From the comparison, it was found that < which means the regression coefficient of the school participation rate is not tested. The test results prove that the positive AP is not significant to poverty.

The rate of school participation is a measurement of system education of the population of school-age and is an education progress indicator (Dewi et al., 2015). The School Enrollment Rate is a fundamental indicator to see the access of population to facility of education. The higher the school Enrolmentrate (APS), the greater number of people that have an opportunity to accept an education. According to Herdiansyah (2018), previous researchers stated that the School Participation Rate had a positive and insignificant effect.

Based on the results of table 4 that the probability value of the variable Food Consumer Price is 0.0007 > 0.05, showing its significance. Prices are an important indicator in the economy, especially when it comes to food. Research on the relationship between food prices and people's purchasing power has been done a lot. Ivanic and Martin (2008) conducted a study that focused on the effect of rising prices of basic commodities in developing countries on poverty levels. On one hand, an increase in prices will increase income for those who sell the product. On the other hand, consumers will be harmed. The effect of the price increase on poverty depends on the balance between the two sides. However, the study results showed that an increase in the price of basic commodities increases poverty substantially in the short term. Instability and rising food prices are important factors affecting people's purchasing power.

Frankenberg, et.al. (1999) conducted their study when Indonesia experienced an economic crisis. 1998 was the peak point of the economic crisis where the economy shrank by 15% and inflation skyrocketed by 80%. This certainly affects household spending on various

goods and services. The study results show that households in urban areas experienced a decline in consumption of 10-15% greater than households in rural areas. The effect of price instability on purchasing power is also the background of a study conducted by Galtier (2009). Therefore, these results follow the researches conducted.

Conclusion

This research is using fixed effect panel data method. This study shows that the Human Development Index (HDI) had a significant and negative effect on poverty. Following the hypothesis, the negative sign indicates that the higher the HDI, the lower the poverty rate. The unemployment variable had a negative sign and i s insignificant to the poverty level. These results do not follow the hypothesis, theory, and previous research, which is the theoretical basis of this research. RGDP had a negative and insignificant effect on the level of poverty. An increase in RGDP can be balanced with equitable development oriented to income distribution and equitable distribution of financial results throughout society, as well as efforts to increase economical growth in each region by relying on their potential. Population had a significant positive effect on the poverty. It can be inferred higher population leads to a greater supply of labor. Unfortunately, not all workers can be absorbed in every production sector which affected the number of poor people. School participation rate had a significant positive effect on poverty. This shows a positive relationship between APS and poverty. The greater the school participation rate, the higher the poverty level and vice versa. Price of food consumers had a significant negative effect. In this case, the price is an important indicator. In the economy, especially regarding food ingredients. A price increase will increase income for those who sell the product. On the other hand, consumers will be harmed. The effect of the price increase on poverty depends on the balance between the two sides.

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