Research Paper

An Analysis on the Influence of Population Growth Rate, Economic Growth, Human Development Index, Income Distribution, and Unemployment Rate toward Poverty in All Provinces in Indonesia

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ABSTRACT

This research aims to analyze the influence of population growth rate, economic growth, human development index, income distribution, and unemployment rate toward poverty in all provinces in Indonesia. This research used multiple linear regression model which processed with SPSS. All variables, such as population growth rate, economic growth, human development index, income distribution, and unemployment rate are in form of secondary data, which further proxied with Gini Ratio and unemployment rate in all provinces in Indonesia within 2016. The included data are in form of cross section data. The results show that population growth rate (0,015), economic growth (0,00), human development index (0,035), income distribution (0,01), and unemployment rate (0,00) are simultaneously influencing the poverty in all provinces in Indonesia, significantly

Keywords: *Population Growth Rate, Economic Growth, Human Development Index, Income Distribution, Unemployment Rate, Poverty.*

INTRODUCTION

National development goals are to improve economic performance so that they can create jobs and regulate decent lives for everyone, which in turn will realize the welfare of the Indonesian population. One of the goals of national development is to reduce poverty. Poverty is one of the diseases in the economy, so it must be cured or at least reduced. The problem of poverty is indeed a complex and multidimensional problem. Therefore, efforts to reduce poverty must be carried out comprehensively, covering various aspects of people's lives, and carried out in an integrated manner.

Economic development has a major impact on poverty alleviation. As disclosed by Kakwani and Son (2003) that the purpose of development is to reduce the level of poverty achieved through economic growth and / or income distribution. The population living below the poverty line in Indonesia mostly lives in rural areas. In order to escape the poverty trap, they need to be empowered. For this reason, government intervention is needed to help provide assistance that can help improve the economy of rural communities. One of the real efforts currently undertaken by the government is the provision of assistance to every village in Indonesia, known as village funds. Since 2015, the Indonesian government in the APBN has budgeted large amounts of village funds. The amount of this village fund has increased from year

to year. This reflects the seriousness of the government in overcoming the problem of poverty in Indonesia.

However, in reality a significant increase in the amount of village funds from 2015 to 2017 was not followed by a significant reduction in poverty rates. This is as shown in Table 1.

Table 1: Number of Village Funds and Poverty Levels in Indonesia in 2015-2017

Year	Total Village Funds (Trillion Rupiah)	Poverty level (Percent)
2015	20,76	14,09
2016	46,9	13,96
2017	60	13,47

Source: BPS

Based on Table 1 above, it is known that in 2015, the amount of village funds allocated by the government was Rp. 20.76 trillion. Next in 2016, the allocation of village funds doubled, which amounted to Rp. 46.9 trillion. Furthermore in 2017, the allocation of village funds rose again to Rp. 60 trillion. From 2015 to 2017 village funds experienced a significant increase, which was 2.89 times or 289 percent.

On the other hand, during the 2015 to 2017 period the poverty rate in Indonesia, especially in rural areas, was still very high. During this period, the decline in poverty was very slow, inversely proportional to the significant increase in the amount of village funds. Based on data obtained from BPS, the poverty rate in rural areas in 2015 was 14.09%, followed by 2016 at 13.96%, and in 2017 at 13.47%. In the period of 2015 to 2017, the reduction in poverty in Indonesia, especially in rural areas, was only 0.62%. This is very disappointing when compared to the increase in the number of village fund allocations which reached 289%. This fact encourages researchers to examine what actually affects poverty levels in the provinces of Indonesia?

There are many factors that affect poverty in Indonesia, one of which is the population. Malthus in his theory likens the rate of population growth as a series of measures, and the rate of growth of food as a series of calculations, which means that the rate of population growth is faster than the rate of growth of food. So, for the long term this will bring havoc, namely the crisis of natural resources which ultimately drives the high rate of poverty in the region. Kuncoro (2000) revealed that the population in the economic development of a region is a fundamental problem. This is a problem because uncontrolled population growth can hamper economic development, namely people's welfare and reduce poverty.

Economic growth also has a close relationship with poverty. Increased economic growth was allegedly having an impact on reducing the poverty rate itself. According to Ranis (2004), the distribution of increased income from economic growth has a strong impact on human development. With the increase in income, the poor have capital to improve the quality of life, both health and education. This will have an impact on improving people's welfare and reducing poverty. In addition, the benefits of economic growth can also be allocated for infrastructure development, so that the economic climate can grow well.

The poor are essentially trapped in a prolonged poverty trap. This happens because they do not have the opportunity to improve the quality of life. Therefore, increasing human capital development is needed. The aim is to accelerate human development which leads to an increase in the level of welfare. The success of human resource development is shown by the Human Development Index. The higher the Human Development Index value of a region, the better the level of human resource development in the area. According to Napitupulu (2007), the human development index contains three important dimensions in development, which are related to aspects of fulfilling the need for longevity and healthy life, to gain knowledge and have access to resources can meet living standards. That is, the three important dimensions of human development are very influential on poverty. To maximize the role of economic development in reducing poverty, the main requirement that must be met is equitable

income distribution. Income distribution has an important role in ensuring the benefits of economic growth and development can be enjoyed by the community fairly and evenly. If the distribution of income of a country or region occurs evenly, then every resident of the country or region can enjoy the benefits of economic growth in the form of increased income. Addition of income from the benefits of economic growth can make it easier for the poor to fulfill their needs. In addition, these poor people also have the opportunity to improve the quality of life, because they have access to education and health. Uneven income distribution causes a wider gap between the poor and the rich population. This tends to have an impact on the high rate of poverty, because the benefits of economic growth are only enjoyed by certain groups.

The high level of unemployment can result in the worsening problem of poverty. According to Sukirno (2004), the bad effect of unemployment is to reduce people's income which ultimately reduces the level of prosperity that someone has achieved. Every person who is unemployed will find it difficult to make ends meet, because he has no income. This situation will increase their tendency to be trapped in poverty. Arsyad (1997) states that there is a very close relationship between the high rates of unemployment and poverty. For most people, those who do not have permanent or part-time jobs are always among very poor groups of people. This shows that the higher the unemployment rate, the higher the poverty rate. From the explanation above, the researcher is interested in conducting a research entitled "The Influence of the Level of Population Growth, Economic Growth, Human Development Index, Income Distribution and Unemployment Rate Against Poverty in the provinces of Indonesia".

Hypothesis

Based on the research background and the identification of the relationships between variables, the research hypothesis can be developed as follows:

1. The population growth rate has a positive effect on poverty in the province of Indonesia.
2. Economic growth has a negative effect on poverty in the province of Indonesia.
3. The Human Development Index has a negative effect on poverty in the province of Indonesia.
4. Inequality of income distribution has a positive effect on poverty in the province of Indonesia. The unemployment rate has a positive effect on poverty in the province of Indonesia.

MATERIALS AND METHODS
Method of Collecting Data

This research is quantitative descriptive. According to Sugiyono (2014), quantitative descriptive research is a study that analyzes quantitative / statistical data, with the aim of testing predetermined hypotheses and then interpreting the results of the analysis to draw conclusions.

Population is a generalization area consisting of: objects / subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2014). The population of this study is all provincial governments in Indonesia in 2017 which number 34 provinces. This research is census research, so that all members of the population are part of the testing.

The data used in this study are secondary data, namely available data sourced from government agencies that have been published. Data is accessed from the Central Statistics Agency (BPS) page https://www.bps.go.id/. BPS is one of the government agencies that is recognized and has the legality to publish statistical data in Indonesia.

The secondary data used are population growth rate data, economic growth data, Human Development Index data, income distribution data proxied by Gini Ratio, and data on unemployment rates

across provinces in Indonesia in 2016. This data is in the form of cross section data.

Descriptive statistics

Descriptive statistical presentation aims to provide an overview of research data in the form of mean, median, and standard deviation. Descriptive statistics in this study are presented in table form. A summary of information on research data can be seen in table 2. below:

Table 2. Descriptive statistics

Variabel	Maksimum	Minimum	Std. Deviasi	Mean (rata-rata)
Poverty	27,62	3,77	6,00	11,32
Population growth rate	2,75	0,03	0,69	1,25
Economic growth	6,20	-1,09	1,45	3,57
IPM/ Human Development Index	80,06	59,09	4,07	69,75
Inequality of income distribution	0,44	0,28	0,04	0,36
Unemployment rate	9,29	1,14	1,94	4,96
Many observations		34		

Source: Data Processing Results

Based on Table 2 it is known that the average value of poverty is 11.32%, the maximum number is 27.62% and the minimum is 3.77%. This shows that the poor population in the province of Indonesia is on average estimated at 11.32%.

The average value of population growth is 1.25%, the maximum value is 2.75%, and the minimum value is 0.03%. This shows that on average the population growth rate in the province of Indonesia is 1.25%.

The average value of the economic growth rate is 3.57%, the maximum value is 6.20%, and the lowest growth is at -1.09%. On average, the provincial economic growth in Indonesia is estimated at 3.57%.

The average Human Development Index is 69.75, the highest value is 80.06, and the lowest is 59.09. On average, the provincial human development index in Indonesia is 69.75.

The highest value of income distribution inequality is 0.44, the lowest is 0.28, and the average value is 0.36. This shows that the average value of inequality in income

distribution in the province of Indonesia is 0.36. This research measures the inequality of income distribution using the Gini Ratio.

On average, the unemployment rate in the province of Indonesia is 4.96%. The highest unemployment rate is 9.29%, and the lowest is 1.14%.

RESULT

Normality Test

The normality of the data was tested using the Kolmogorov-Smirnov test. Data is said to be normally distributed if the value of Asymp. Sig. (2-tailed)> 0.05. The results of the normality test are presented in Table 3. The following:

Table 3. Normality Test Results

		Unstandardized Residual
N		34
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	2,13109614
Most Extreme Differences	Absolute	,103
	Positive	,075
	Negative	-,103
Kolmogorov-Smirnov Z		,600
Asymp. Sig. (2-tailed)		,865
a. Test distribution is Normal. b. Calculated from data.		

Table 3 shows the value of Asymp. Sig. (2-tailed) of 0.865. Asymp Value. Sig. (2-tailed) greater than 0.05 (0.865> 0.05). Therefore, it can be concluded that the data of all variables in the research model are normally distributed.

Heteroscedasticity test

This study uses the Glejser test to detect herocedasticity problems in the research model. The model is said to be free from the problem of heteroscedasticity if the probability of significance of each variable is> 0.05. The test results are presented in the following table 4:

Table 4. Heteroscedasticity Test Results

Variabel	Sig	Keterangan
Poverty	0.133	There is no problem of heteroscedasticity
Population growth rate	0.448	There is no problem of heteroscedasticity
Economic growth	0.832	There is no problem of heteroscedasticity
Human Development Index	0.597	There is no problem of heteroscedasticity
Inequality of income distribution	0.977	There is no problem of heteroscedasticity

Source: Data Processing Results

Based on Table 4, it is known that the probability value of all research variables is greater than 0.05. Thus, it can be concluded that the regression model is free from the problem of heteroscedasticity.

Multicollinearity test

This study uses the value of VIF (Variance Inflation Factor) to detect multicollinearity problems. A research model is said to be free from multicollinearity problems if the VIF value of each variable is <10. A summary of the test results is presented in Table 5 below:

Table 5. Multicollinearity Test Results

Variabel	VIF	Keterangan
Poverty	2,168	There is no multicollinearity
Population growth rate	1,353	There is no multicollinearity
Economic growth	1,955	There is no multicollinearity
Human development index	1,403	There is no multicollinearity
Inequality of income distribution	1,529	There is no multicollinearity

Source: Data Processing Results

Based on Table 5, it is known that all research variables have VIF values <10. This indicates that the research model is free from multicollinearity problems.

Analysis of Multiple Linear Regression
From the results of testing using SPSS, the regression results are presented in Table 6 below

Table 6. Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11,749	9,898		1,187	,245		
	Population growth	2,203	,851	,256	2,590	,015	,461	2,168
	Economic growth	-1,390	,324	-,335	-4,292	,000	,739	1,353
	Human Development Index	-,306	,138	-,208	-2,217	,035	,512	1,955
	Inequality in Income Distribution	46,487	12,506	,295	3,717	,001	,713	1,403
	Unemployment Rate	1,293	,257	,418	5,038	,000	,654	1,529
a. *Dependent Variable*: Poverty								

Source: Data Processing Results

Based on Table 6, you can write the multiple linear regression equation as follows:
$$Y = 11{,}749 + 2{,}203X_1 - 1{,}390X_2 - 0{,}306X_3 + 46{,}487X_4 + 1{,}293X_5$$
The above equation can be explained as follows:
1. The constant value of 11.749 shows that if the population growth rate, economic growth, human development index, income distribution inequality, and unemployment rate are constant, the poverty rate is 11.749%.

2. The population growth coefficient of 2.203 shows that if other independent variables remain and the population growth rate rises by one percent, then the poverty rate will rise by 2.203%. The coefficient is positive, meaning that the population growth rate is positively related to poverty, so that if the population growth rate rises, the poverty rate will rise, and vice versa.
3. The coefficient of economic growth of -1.390 indicates that if other independent variables remain and economic growth

rises one percent, then poverty will decrease by 1.390%. The negative value coefficient shows the occurrence of a negative relationship between economic growth and poverty, so that if economic growth rises then poverty will decline, and vice versa.

4. The Human Development Index coefficient value of -0.306 indicates that if other independent variables remain and the Human Development Index rises by one percent, then poverty will decrease by 0.306%. The negative coefficient indicates a negative relationship between human development index and poverty. Thus, if the human development index rises, poverty will decrease, and vice versa.

5. The coefficient of inequality in income distribution of 46,487 indicates that if other independent variables remain and the inequality of income distribution rises one percent, then poverty will rise by 46,487%. The positive value coefficient shows a positive relationship between the inequality of income distribution and poverty. Thus, if the inequality of income distribution increases, poverty will also increase.

6. The unemployment rate coefficient of 1.229 shows that if other independent variables remain and the unemployment rate rises by one percent, then poverty will rise by 1.29%. The coefficient is positive, meaning that the unemployment rate is positively related to poverty, so that if the unemployment rate rises, the poverty rate will also increase.

Simultaneous Test (Test F)

Test F aims to test the effect of all independent variables on the dependent variable simultaneously. A summary of the test results is presented in Table 7 below:

Table 7 F Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
ANOVA[b]						
1	Regression	1041,976	5	208,395	38,934	,000[a]
	Residual	149,872	28	5,353		
	Total	1191,847	33			
a. *Predictors*: (*Constant*), Population growth, Economic growth, human development index, Inequality in Income Distribution, Unemployment Rate.						
b. *Dependent Variable*: Poverty						

Source: Data Processing Results

Table 7 shows the probability value of the test significance F <0.05. Thus, it can be concluded that the unemployment rate, inequality of income distribution, human development index, economic growth, and population growth rates affect poverty simultaneously.

Determination Coefficient Test (R^2)

The test coefficient of determination can show how much variation in the dependent variable is explained by the independent variables. The results of the tests are presented in Table 8 below:

Table 8. Determination Coefficient Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model Summary[b]				
1	,935[a]	,874	,852	2,31356

Source: Data Processing Results

Table 8 shows the R^2 value of 0.874. That is, the poverty variable is able to be explained by the variable unemployment rate, inequality of income distribution, human development index, economic growth, and population growth rate of 87.4%, while the remaining 12.6% is explained by other variables not in the model.

Partial Test (t Test)

The t test aims to test how far the influence of the independent variable on the dependent variable partially. Tests are carried out at an alpha level of 5% (0.05). The test results are presented in the following Table 9:

Table 9. Test results t

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11,749	9,898		1,187	,245		
	Population growth	2,203	,851	,256	2,590	,015	,461	2,168
	Economic growth	-1,390	,324	-,335	-4,292	,000	,739	1,353
	HUMAN DEVELOPMENT INDEX	-,306	,138	-,208	-2,217	,035	,512	1,955
	Inequality in Income Distribution	46,487	12,506	,295	3,717	,001	,713	1,403
	Unemployment Rate	1,293	,257	,418	5,038	,000	,654	1,529
a. *Dependent Variable*: Poverty								
Source: Data Processing Results								

1. Population growth rate

Based on the results of the analysis, obtained a significance probability value of the population growth rate of 0.015. The significance probability value is less than 0.05 (0.015 <0.05). Therefore, the first hypothesis is accepted. Thus, it can be concluded that the population growth rate has a significant effect on poverty.

2. Economic growth

The results of the analysis show a probability value of significance for economic growth of 0,000. The significance probability value is smaller than alpha value (0,000 <0,05). Therefore, the second hypothesis is also accepted. This shows that economic growth has a significant effect on poverty in Indonesia.

3. Human Development Index

The results of the analysis show the probability value of the HDI of 0.035. The value of the probability of significance is smaller than the alpha value (0.035 <0.05). Therefore the third hypothesis is accepted, so it can be concluded that the Human Development Index has a significant effect on poverty in Indonesia.

4. Inequality in income distribution

The result of the analysis shows the significance probability value of the income distribution inequality of 0.001. The significance probability value is smaller than alpha value (0.001 <0.05). Therefore the fourth hypothesis is accepted, so it can be concluded that the inequality of income distribution has a positive effect on poverty in Indonesia.

5. Unemployment Rate

The analysis results show a significant probability value of the unemployment rate of 0,000. The value of the probability of significance is smaller than the alpha value (0,000> 0.05). Therefore the fifth hypothesis is accepted. This shows that the unemployment rate has a significant effect on poverty in Indonesia.

CONCLUSION

This study aims to examine the effect of population growth rates, economic growth, the Human Development Index, the inequality of income distribution, and the unemployment rate against poverty. Research was conducted on the provincial government in Indonesia in 2017. From the results of the statistical tests that have been conducted, some conclusions can be drawn as follows:

1. The rate of population growth has a positive and significant influence on poverty in provinces throughout Indonesia.
2. The level of economic growth has a negative and significant effect on poverty in provinces throughout Indonesia.
3. The Human Development Index has a negative and significant effect on poverty in provinces throughout Indonesia.
4. Inequality in income distribution has a positive and significant effect on poverty in provinces throughout Indonesia.
5. The unemployment rate has a positive and significant influence on poverty in provinces throughout Indonesia.

RECOMMENDATION

Recommendation that researchers ask for several parties :

1. Judging from the results of the above research shows that the population growth rate has a significant positive effect on poverty. So the government is expected to be more aggressive in suppressing population growth rates by counseling so that public awareness about the importance of population density has an impact on the surrounding environment and conduct programs that suppress population growth such as family planning programs.

2. Judging from the results of the above research shows that the rate of economic growth has a significant negative effect on poverty. Hence the government needs to encourage an increase in Indonesia economic growth rate.

3. Judging from the results of the above research shows that the inequality of income distribution has a significant positive effect on poverty. Therefore, the government should provide easy access to development which can be divided into three fields, namely social, economic and infrastructure. In the social field, such facilities are carried out through the provision of subsidies /educational scholarships, free schools and the construction of educational infrastructure. Furthermore in the economic field through the development of UMKM and the ease of capital credit. In the infrastructure sector, the construction of roads, clean water, electricity and telecommunications infrastructure, the implementation of which needs to pay attention to equality in the spatial aspects, not only equitability according to provinces / districts but also the location of cities and villages.

4. Judging from the results of the above research, it shows that the Human Development Index has a significant negative effect on poverty, therefore it is necessary to increase the human development index because if human development index increases the number of poor people will also decrease. This goal is achieved through improving quality and services in the fields of health, education and the ability to buy people. In other words, a better welfare will be created and the number of poor people will decrease.

5. Judging from the results of the above research shows that the Unemployment Rate has a significant positive effect on poverty; therefore the government should pay attention to the problem of unemployment. An increase in the number of workforce should be balanced with employment opportunities. With the investment in an area it will require a lot of labor. This is one form of expansion of labor-intensive employment opportunities, such as making projects for public facilities, holding development in the informal sector such as home industries. In addition, it provides job training to find work or create jobs.

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