

## **Non-Parametric Approach To Measuring Accuracy of Social Assistance Programs in The Middle Of Indonesian Economic Downturn**

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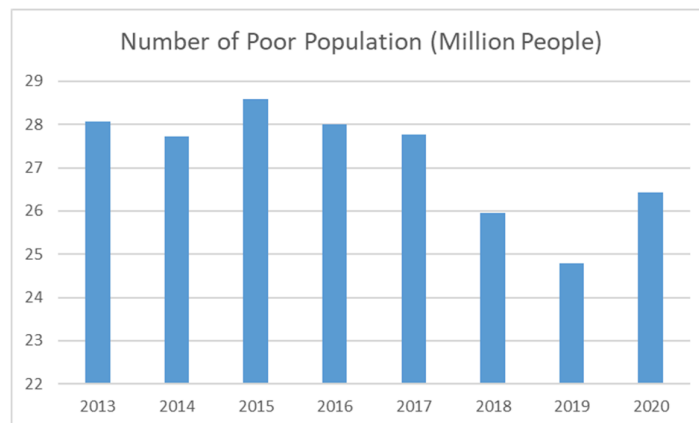
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**ABSTRACT.** This study aims to analyze the relationship and influence of social assistance on the number of poor people in Indonesia. There are control variables as a comparison, namely; unemployment, central government debt and economic growth. The research method used a quantitative approach with non-parametric statistics, annual data (2013-2020) and elasticity were used to measure the magnitude of changes in the number of poor people due to additional social assistance. Rank Spearman test to test the relationship of each variable (total unemployment, central government debt and economic growth) to the amount of poverty in Indonesia. The results showed that there was a very strong relationship between social assistance for Contribution Assistance Recipients (PBI) and the Family Hope Program (PKH) on the number of poor people. The negative sign indicates that social assistance can reduce poverty significantly, with the strongest impact being the PBI program. There is a strong relationship between debt and the number of poor people. The slowdown in economic growth is proven to be unrelated to the number of poor people, meaning that in the midst of an economic slowdown, the amount of poverty in Indonesia can be suppressed through social assistance programs, job creation as laborers and government debt is allocated for productive activities and economic activities that have a direct impact on the poor and vulnerable to poverty. Poverty alleviation efforts can be carried out by the government by synergizing social assistance programs and creating job opportunities according to the ability of the poor on average.

Keyword: economic growth; effectiveness; social assistance

## INTRODUCTION

In an effort to reduce poverty in a broad economy, it can be done by keeping economic growth at a high level. Because economic growth will encourage the economy by creating job opportunities, so that in the end it will have an impact on increasing people's income while reducing poverty levels. However, economic growth alone will not be sufficient to fight poverty, if other policies are not implemented clearly and clearly to improve the standard of living and welfare of the people (Tarabini, 2010). Social welfare is a condition in which all needs can be fulfilled both materially, spiritually and socially so that they can live properly and be able to develop themselves, and can carry out their social functions. This will trigger economic conditions both nationally and globally. The increase in economic growth is the result or result of changes in capital formation, labor input, and various other elements related to changes in productivity. The concept of economic growth is seen from a broader perspective, several social factors in measuring economic growth such as the poverty rate, unemployment rate, industrial structure, educational opportunities and population structure and other social matters. Economic development is the key to improving people's welfare and minimizing unemployment and poverty. The World Bank predicts global economic growth in 2021 of 4%. This figure is improving when compared to the rate of the global economy in 2020 which experienced a contraction of 4.3%.



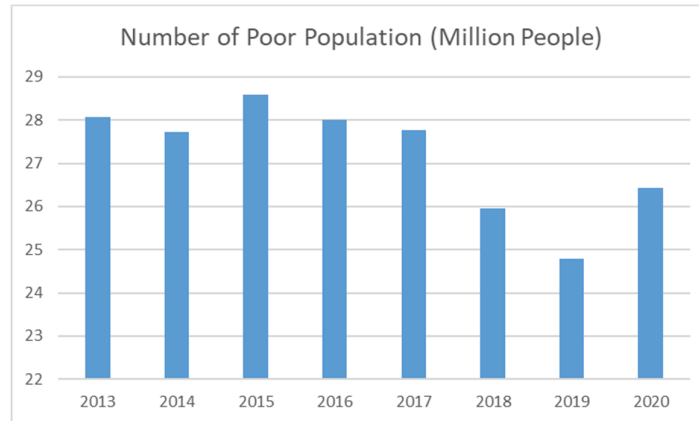
**Figure 1. Indonesia's Economic Growth (2013-2020)**

Source: Badan Pusat Statistik (2020)

The Indonesian Ministry of Finance stated that the Indonesian economy was only able to grow 2.97 percent in the first quarter of 2020 because the impact of the Corona or COVID-19 pandemic turned out to be faster than the government's estimate. Therefore, the economic turmoil that occurred due to the Covid-19 pandemic will directly impact Indonesia's international economic performance, both in terms of trade in goods / services and financial performance. In the end, it will have an impact on the slowdown in Indonesia's economic growth, which is reflected in decreasing changes in gross domestic income. This condition directly explains the domestic impact through the weak purchasing power of the public, especially poor households.

When there was a slowdown in economic growth, expansion policies aimed at stimulating economic growth amid global economic turmoil failed to solve the problem of poverty in Indonesia. This is indicated on the graph of the direction between economic growth and the

number of poverty, namely economic growth which is experiencing a slowdown but is followed by a decrease in the number of poverty. This means that the reduction in the number of poverty in Indonesia may not come from economic growth. Indonesia's economic slowdown presents its own challenges for poverty alleviation efforts.



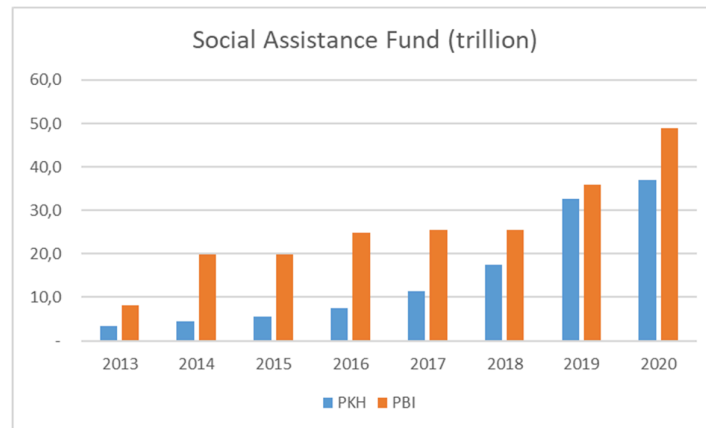
**Figure 2. Number of Poor People**

Source: Badan Pusat Statistik (2020)

During the decline in economic growth, the number of poor people in Indonesia showed a downward trend. Data from the Badan Pusat Statistik (BPS) shows that the number of poor people in 2020 has increased by 26.42 million people, where previously in 2019 it was 24.79 million people. This means that the impact of the Covid-19 pandemic is very influential on increasing the number of poor people in Indonesia. The social assistance program in question consists of the JKN-PBI (National Health Insurance-Subsidized Contribution Beneficiary) and PKH (Hope Family Program) programs. This is considered quite successful in dealing with price fluctuations (inflation) of staple goods, especially rice (Septiadi D, 2016). Not only in Indonesia, volatility in rice prices has a negative impact on poverty in Burkina Faso-France (Fousseni, 2012).

The next social assistance program JKN-PBI is intended as protection from the government for the health of poor families. This is considered quite important because health requires a lot of money and is difficult to afford for poor families. So that with health protection insurance, poor families can maintain their physical health from disease without having to burden the poor family's finances (Tri, 2013). PKH is the first and only program in Indonesia to adopt the Conditional Cash Transfer (CCT) scheme or Conditional Cash Assistance (BTB) which was previously considered successful in improving poverty problems in Latin American countries (Laura B Rawlings, 2005). Social assistance programs are also implemented in developing countries, Brazil has successfully implemented social assistance programs by combining cash assistance, indirect transportation assistance and single conditional cash transfers (Bolsa Familia or family grant funds). Colombia and Chile also implemented social assistance programs for community social protection with an expansion of programs and integrated systems (Worldbank, 2017).

Social assistance is a form of economic resilience program for poor households in facing shocks in terms of food, health, education as well as economic crises and natural disasters. This means that social assistance is aimed not only at alleviating poverty, but also as a protection guarantee program in an effort to minimize the economic vulnerability of poor households.



**Figure 3. Data on Social Assistance Fund Expenditure Budget**

Source: Directorate General of Budget, Ministry of Finance (2020)

Social assistance budget expenditure data from 2013 to 2020 shows an upward trend. The largest social assistance budget from 2013 to 2020 was dominated by the PKH and PBI programs. In 2020 the social assistance program will get bigger, this is because it will help the community face economic difficulties during the Covid-19 pandemic.

As has been described, the condition of Indonesia's economic growth is experiencing a slowdown, but the number of poverty shows a decline. The existence of social assistance indicates a factor that reduces the amount of poverty in Indonesia. However, amidst stagnating economic growth, where does the government-managed social assistance finance come from. One of the most likely factors is that the source of financing comes from government debt. This can be indicated from the small amount of social assistance budget from GDP according to Worldbank research results (2017), where Indonesia's total social assistance budget is only 0.7 percent of GDP.

This study aims to analyze the relationship and influence of social assistance, economic growth, unemployment and government debt on the number of poor people in Indonesia. This is aimed at seeing the effectiveness of social assistance in reducing the number of poor people compared to other government policies, namely economic growth and job creation. The benefit of this research is as an evaluation material for government policies related to effective conditions for the distribution of social assistance funds, and as a scientific development, particularly in the field of public policy analysis.

## METHODS

The research method is the foundation used in compiling and carrying out a study. The benefits of a research method according to Usman (2013) are to find out the importance of research, to assess research results, and to produce skeptical, analytical, critical, and creative attitudes and mindsets. This research is an empirical study conducted to prove the existence of a relationship between the effectiveness of social assistance programs during an economic downturn.

The data in this study is to use secondary data. According to Hasan (2006; 19) secondary data is data obtained or collected by people who conduct research from existing sources. The data used in this study are secondary data on economic growth, debt, unemployment, and social assistance programs at the Badan Pusat Statistik (BPS). Secondary data is also obtained by conducting a

literature review by examining various literatures such as books, journals, literature, and other sources related to research.

Descriptive statistics provide an overview or description of data seen from the average value (mean), standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness (slope distribution) (Ghozali, 2013).

Ghozali said that the heteroscedasticity test explains that the heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from residuals or from observation to other observations. A good regression model is homoscedasticity or heteroscedasticity does not occur. Homoscedasticity occurs when the residual variance from one observation to another is constant. Data is said to be homoscedasticity or free from heteroscedasticity if the significance of the resulting abs is greater than 0.05.

The normality test aims to test whether in the regression model, confounding or seasonal variables have a normal distribution. The normality test can be done with the Kolmogorov Smirnov (KS) statistical test which is carried out by making a null hypothesis ( $H_0$ ) for normally distributed data and an alternative hypothesis ( $H_A$ ) for data not normally distributed. The data is said to meet the assumption of normality or is normally distributed if the significance value of the results the Kolmogorov-Smirnov test is greater than 0.05.

Correlation test uses Rank Spearman test using SPSS 24 statistical tool to see the response to changes in the number of poverty due to changes in exogenous variables. The data used in this study are time series data from 2013 to 2020. The following is the Rank Spearman test formula (Spearman, 1904):

$$r_s = \frac{\sum_{i=1}^n (R_{X_i} - \bar{R}_X)(R_Y - \bar{R}_Y)}{\sqrt{\sum_{i=1}^n (R_{X_i} - \bar{R}_X)^2} \sqrt{\sum_{i=1}^n (R_Y - \bar{R}_Y)^2}}$$

$r_s$	=	Spearman's rank correlation coefficient
$n$	=	number of samples (data)
$x_i$	=	independent variable ith ( $i = 1, 2, \dots, 6$ ), (X1 (PBI), X2 (PKH), X3 (Debt), X4 (Economic Growth) and X5 (Unemployment)
$y$	=	Number of poor people

## RESULT AND DISCUSSION

### Normality, Linearity and Heteroscedasticity Test

To determine the right type of correlation test, it is necessary to test for normality, linearity and heteroscedasticity first. If the minimum requirements for normality and heteroscedasticity are met by independent variables, then the appropriate correlation test is the Spearman-rho test. The test results are shown in Table 1.

**Table 1. Normality Test**

<b>One-Sample Kolmogorov-Smirnov Test</b>		
		Unstandardized Residual
N		8
Normal Parameters <sup>a,b</sup>	Mean	,0000000
	Std. Deviation	,26290419
Most Extreme Differences	Absolute	,144
	Positive	,108
	Negative	-,144
Test Statistic		,144
Asymp. Sig. (2-tailed)		,200 <sup>c,d</sup>

Source: data processed by the author (2020)

Based on the SPSS output table above, it is known that the Asymp.Sig (2-tailed) significance value of 0.200 is greater than 0.05. So, in accordance with the basis of decision making in the Kolmogorov-Smirnov normality test, it can be concluded that the data is normally distributed.

### Linearity Test

The linearity test is one of the classic assumption tests conducted to determine the linear nature of the data distribution between the X and Y variables. It is necessary to know whether there is a linear nature in the X and Y relationship which affects the validity of the regression model produced.

**Table 2. Linearity Test**

<b>ANOVA Table</b>				
			Mean Square	F Sig.
Jumlah Penduduk Miskin * Pertumbuhan Ekonomi	Between Groups	(Combined)	1,111	,349 ,852
		Linearity	,626	,197 ,701
		Deviation from Linearity	1,233	,387 ,809
	Within Groups		3,182	
Total				

Source: Data processed by the author (2020)

Based on the Significance (sig) value, from the table above, the deviation from Linearity Sig value is 0.809, greater than 0.05. So, it can be concluded that there is a significant linear relationship between variable X and variable Y.

### Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the linear regression model there is an inequality of variance from the residuals of one observation to another. A good regression model is homoscedasticity or heteroscedasticity does not occur.

**Table 3. Heteroscedasticity Test**

		<b>Coefficients<sup>a</sup></b>			
		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta	
1	(Constant)	6,500	16,500		,394
	Program Keluarga Harapan	-,169	,047	-1,704	-3,576
	Penerima Bantuan Iuran	,084	,070	,773	1,192
	Pertumbuhan Ekonomi	,549	,581	1,224	,945
	Utang Pemerintah	,001	,001	,837	1,047
	Pengangguran	2,594	1,846	1,204	1,406

Source: data processed by the author (2020)

Based on the results of heteroscedasticity testing, it shows that all variables in this study, both the independent variable and the dependent variable, have a significance value  $> 0.05$ . This means that accept  $H_0$ , that is, all variables in the study have the same variant (homoscedasticity). Of the 6 exogenous variables, there are 6 variables (PKH, PBI, Economic Growth, Government Debt and Unemployment) that meet the normality and homoscedasticity requirements. This means that the six exogenous variables can use the Pearson Product Moment correlation test in seeing its relationship to the number of poor people.

#### **Rank-Spearman Test**

There is a correlation test or relationship between the independent variables and the dependent variable used in this study, namely Spearman-rho.

**Table 4. Rank-Spearman Test**

Number of Poor Population (Y)	Spearman-rho	Sig (2- Tailed)
Hope Family Program	-0,738	0,037
Contribution Aid Recipients	-0,790	0,020
Economic Growth	0,024	0,954
Government Debt	-0,738	0,037
Unemployment	0,571	0,139

Source: Data processed by the author (2020)

The results of the Spearman-rho correlation test between PKH, PBI and Government Debt variables with the number of poor people variable showed a significance value (p-value) smaller than the real level (error tolerance) of 0.05. This means that reject  $H_0$ , namely that there is a significant relationship between PKH, PBI and Government Debt and the number of poor people. The correlation test between economic growth and unemployment and the number of poor people is indicated by a significance value. The significance value was obtained  $> 0.05$ . This means that accept  $H_0$ , that is, there is no significant relationship between economic growth and unemployment and the number of poor people. This result is supported by previous research which proves that there is no statistically significant relationship between economic growth and poverty (Sudarlan, 2015). The relationship between the number of self-employed people and the number of poor people is shown by the significance value of the correlation test of 0.751.

Based on the results of the correlation test, it shows that there are three independent variables that are statistically proven to have a relationship with the number of poor people, namely social assistance (PKH, PBI and Government Debt) and there are two variables that do not statistically have a significant relationship with the number of poor people, namely growth. economy and unemployment. The variables that have a relationship with the number of poor people have different levels of closeness and influence. Therefore, it will be discussed how big the level of relationship and influence between these variables on the number of poor people.

#### **Analysis of the Relationship of Social Assistance to the Number of Poor**

People Based on the results of the correlation test between social assistance (PKH and PBI) and the number of poor people, it shows a negative effect. This means that the higher the government budget for social assistance will have an impact on reducing the number of poor people.

However, the relationship between each of these assistance programs varies with the number of poor people. PKH assistance programs have a very strong and negative relationship to the number of poor people. This is indicated by the value of the Spearman-rho correlation coefficient of -0.738. This means that the PKH program is able to significantly influence the number of poor people in Indonesia. This is inseparable from the high amount of budget the government has issued for the PKH program since 2014.

There is also a very strong relationship between the PBI program and the number of poor people. The value of the Spearman-rho correlation coefficient is -0.790. This means that the PBI program is able to reduce the number of poor people. Of the two social assistance programs, the PBI program has a very strong relationship with the number of poor people in Indonesia. This means that the PBI program is able to reach a wide range of poor and vulnerable people who need direct assistance, especially health.

The recipients of contribution assistance receive enormous benefits because the health insurance benefits provided are almost unlimited (Worldbank, 2017). Research (Wu, 2018) supports the results of this study, which is statistically proven if social assistance has an impact on reducing poverty. This means that social assistance is one of the government policies instruments that can be used in poverty reduction efforts.

#### **Analysis of the Relationship between Economic Growth and the Number of Poor People**

The coefficient value of the Pearson Product Moment correlation test is 0.024. However, statistically positive values indicate a positive and strong enough relationship between the level of economic growth and the number of poor people. This means that the higher the level of economic growth in Indonesia, it will encourage an increase in the number of poor people. The insignificant relationship and effect of economic growth on the number of poor people is caused by the rate of increasing economic growth used in this study, namely from 2013 to 2020 showing a trend of economic slowdown. Economic growth in 2020 experienced a deep contraction of -3.11%. This was caused by the Covid-19 pandemic.

#### **Analysis of the Relationship of Government Debt to the Number of Poor People**

The statistical results of the Spearman rho correlation test show that there is a significant relationship between government debt and the number of poor people. The correlation coefficient value of -0.738 means that there is a strong relationship, where when government debt is increased and allocated to an increase in the budget for social assistance funds, it will have an impact on reducing the number of poor people significantly.

Conversely, if the use of government debt is not on target, it will have a negative impact in increasing the number of poor people. This result is supported by previous research from



(Dahmiri, 2010) which shows that government foreign debt has an indirect effect on reducing poverty in Indonesia. The impact is through investment and job creation. Based on the two research results, it illustrates that the use or utilization of funds originating from debt financing must be used optimally and appropriately, both as a source of funding for social assistance and for development in the context of creating employment opportunities.

#### **Analysis of the Relationship between Unemployment and Number of Poor People**

The results of the Spearman-rho correlation test between the number of unemployed and the number of poor people showed a positive relationship of 0.571. This value falls into the very low relationship category. This means that there is no significant correlation between the number of unemployed and the number of poor people. A positive increase in the unemployment rate will result in stronger poverty. Unemployment has the impact of reducing people's income, so that it will reduce the level of prosperity they achieve. An unemployed person has no income from his job.

### **CONCLUSION**

Based on the results of the study, it can be concluded that (1) there is a very strong relationship between the PKH and PBI social assistance programs on the number of poor people. The PKH program has a strong relationship with the number of poor people. Another variable that is statistically proven to have a relationship with the number of poor people is government debt, (2) Statistically there is a negative influence between social assistance programs (PKH and PBI) on the number of poor people. Another variable that can reduce the number of poor people is government debt.

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