The Effect of Unemployment Rate, Human Development Index, Gross Domestic Product against Level of Poverty in Indonesia

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Abstract

The aim of this paper is to know the effect of the unemployment rate, human development index, and gross domestic product against level of poverty in Indonesia year of 2002-2013. The data used are secondary data obtained from the Central Bureau of Statistics. The data period used is the start year 2002-2013. The data is processed by applying a multiple linear regression analysis. The result is unemployment rate; human development index and gross domestic product have an effect on the level of poverty in Indonesia year of 2002-2013.

Keywords: unemployment rate, human development index, gross domestic product, level of poverty.

Introduction

The poverty issue always comes up involving all aspects of human life and its presence is often not realized by the man (Suparlan, 1993). Poverty is explained by the low income so that it cannot afford to meet the necessities of life. The problem of poverty in Indonesia is still a serious concern given the still high levels of poverty. It can be seen from the number of poor population that existed in Indonesia based on the Central Bureau of Statistics:

<table>
<thead>
<tr>
<th>Year</th>
<th>The Amount of Poor Population (Million People)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>38.39</td>
</tr>
<tr>
<td>2003</td>
<td>37.34</td>
</tr>
<tr>
<td>2004</td>
<td>36.15</td>
</tr>
<tr>
<td>2005</td>
<td>35.10</td>
</tr>
<tr>
<td>2006</td>
<td>39.30</td>
</tr>
<tr>
<td>2007</td>
<td>37.17</td>
</tr>
<tr>
<td>2008</td>
<td>34.96</td>
</tr>
<tr>
<td>2009</td>
<td>32.53</td>
</tr>
<tr>
<td>2010</td>
<td>31.02</td>
</tr>
<tr>
<td>2011</td>
<td>29.95</td>
</tr>
<tr>
<td>2012</td>
<td>28.86</td>
</tr>
<tr>
<td>2013</td>
<td>28.31</td>
</tr>
</tbody>
</table>

Source: Central Bureau of Statistics
From table 1 above it can be seen that the amount of poor population in Indonesia during the year 2002-2005 decline. Later in the year 2006 the total population of poor in Indonesia increases. The increase is due to the increasing unemployment rate, the human development index and gross domestic product are low. Then the amount of poor population in Indonesia year of 2006-2013 continues to decline. The decline in the poverty rate is achieved through the extension of the creation of employment opportunities, increase to and expansion of the program pro-people, as well as an increase in the effectiveness of poverty reduction through a variety of policies and the implementation of the three cluster the program’s poverty reduction.

Yacoub (2012) conducted a study on the influence of the unemployment rate against poverty level regency/city in West Kalimantan province. The result is unemployment rate effect significantly to poverty level regency/city in West Kalimantan province. Empirical data show a pattern of relationships which are not always aligned between the unemployment rate and the level of poverty.

Mustika (2011) conducted a study on the influence of gross domestic product and population against the level of poverty in the period 1990-2008 Indonesia with regression results indicate that the variable is gross domestic product and population of influential variables are significant against poverty levels.

The aim of this paper is to know the effect of the unemployment rate, human development index; gross domestic product against level of poverty in Indonesia year of 2002-2013 thus obtained a good resolution to alleviate poverty.

**Literature Review**

**Poverty**

Kuncoro (2006) identified the cause of the poverty of the economic side. First, micro, poverty arises due to the inequalities of resource ownership patterns are so lame for distribution. Second, poverty due to the difference in access to capital. Third, poverty is a result of differences of access to capital. Of these three causes of poverty can be explained by the theory of the vicious circle of poverty.

According to Todaro (2004) sees poverty from 2 sides, namely:

1. **Absolute Poverty**

   Absolute poverty is the poverty that is associated with an estimate of the level of income and needs only restricted to basic necessities or minimum basic needs which allows someone to live in worth. The concepts are intended to determine the minimum level of income sufficient to meet the physical requirements to food, clothing, and housing to ensure survival.

2. **Relative Poverty**

   Relative poverty is poverty seen from the aspect of social inequality, because there are people that can already meet the minimum basic needs but still much lower than the surrounding community. The greater the difference between the level of livelihood the top and the bottom will be the greater number of the inhabitants of pula can be categorized as poor, so that relative poverty is closely related to the issue of income distribution.

**Unemployment**

Sukirno (2004), unemployment is someone who’s is classed in the work force, who are actively looking for work are at a certain level of wages of acupuncture, but are unable to obtain the desired job.
According to Tambunan (2001), unemployment can affect the level of poverty in various ways, among others:
1. If the household has a limitation of liquidity means that the current consumption are very influenced by current income, then disaster unemployment will directly affect the income poverty rate of consumption poverty rate.
2. If the household does not face liquidity constraints which means that consumption is currently not too influenced by current income, then the increase in unemployment would lead to increased poverty in the long term, but not too effect in the short term

According to Todaro (2004), unemployment has a very tight relationship of effect on the level of poverty. High unemployment will lead to diminished revenues so it cannot meet the needs of the everyday that ultimately will experience poverty, with the number of jobless that, thus the number jobless has positive relationship towards poverty.

**Human Development Index**
New growth theory emphasizes the importance of the role of the government is mainly in improving the development of human capital and encourage research and development to enhance human productivity. Reality can be seen by investing education will be able to improve the quality of human resources is shown with increased knowledge and skills of a person. The higher the level of education a person, then the knowledge and expertise will also increase so will encourage increased productivity of work.

Ravi Kanbur and Lyn Squire (1999) explain that the level of health care and education can affect poverty. Improvements in health that the Government can improve the health of communities, and school-age children may attend school can receive lesson well. Level of education make workers have the skills and knowledge that lead to increased productivity and revenues also increased. This led to economic growth will increase which then causes poverty levels are reduced.

**Gross Domestic Product (GDP)**
Gross Domestic Product (GDP) is the name given to the total market value of final goods and services produced in a nation during a particular year (Samuelson and Nordhaus, 2004).

Gross domestic product is the most not economy statistics because it is considered as the best single measure concerning the welfare of the community. The underlying thing because the GDP measure two things at the same time: the total revenue of all the people in the economy and the country’s total spending to buy goods and services results from the economy. The reason the GDP can perform measurements of the total income and expenditure due to an economy as whole, revenues certainly equal to expenses (Mankiw, 2006).

**Research Method**
This research used is secondary data obtained in the Central Bureau of statistics and period 2002-2013 in Indonesia. The data used are unemployment rate, the human development index, gross domestic product, and the level of poverty. The data were analyzed by using multiple regression analysis, t-test, f-test, and a test of determination.
Results and Discussion

Multiple Regression Analysis Test

In this research, multiple linear regression analysis was performed to find the influence of the unemployment rate, the human development index and gross domestic product of the level of poverty in Indonesia year of 2002-2013:

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>41.371</td>
<td>16.308</td>
<td>2.537</td>
<td>.039</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>1.015</td>
<td>.277</td>
<td>.583</td>
<td>3.666</td>
</tr>
<tr>
<td>The Human Development Index</td>
<td>-.483</td>
<td>.235</td>
<td>-.427</td>
<td>-2.050</td>
</tr>
<tr>
<td>Gross Domestic Product</td>
<td>-.143</td>
<td>.611</td>
<td>-.040</td>
<td>-.233</td>
</tr>
</tbody>
</table>

Table 2. The results of Multiple Linear Regression.

The data processing results from a multiple linear regression model as follows:

\[ Y = 41.371 + 1.015 X_1 - 0.483 X_2 - 0.143 X_3 + e \]

With description:
- \( Y \): The Level Of Poverty
- \( a \): Constant
- \( b \): The Regression Coefficient
- \( X_1, X_2, X_3 \): Unemployment, The Human Development Index, Gross Domestic Product

The interpretation of the model:

a. a constant \( (a) = 0 \), showing the price constant, where if the value of the variable \( X_1 \) (the unemployment rate), the variable \( X_2 \) (human development index) and the variable \( X_3 \) (gross domestic product) = 0, then poverty levels \( (Y) = 0 \). This means that if the unemployment rate, the human development index and gross domestic product is not increased then the level of poverty in Indonesia year fixed 2002-2013 value 0.

b. The coefficient of \( X_1 \) (the unemployment rate) = 1.015, shows that the variable \( X_1 \) (the unemployment rate) a positive effect towards Indonesia poverty levels. This means that each increase the unemployment rates by 1 per cent, then the level of poverty in Indonesia year 2002-2013 will increase to 1.015 percent.

c. The coefficient of \( X_2 \) (human development index) = -0.483, indicating that the variable \( X_2 \) (human development index) negative effect against the level of poverty in Indonesia. This means that every human development index decline in 1 per cent, then the level of poverty in Indonesia year 2002-2013 will be declined by 0.483 percent.

d. The coefficient of \( X_3 \) (gross domestic product) = -0.143, indicating that the variable \( X_3 \) (gross domestic product) negative effect against the level of poverty in Indonesia. This means that any decline 1 percent gross domestic product, then the level of poverty in Indonesia year 2002-2013 will be declined by 0.143 percent.
**F-test**
The results of the calculation of the F test in this research are:

**Table 3. The result of F-test.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>62.002</td>
<td>3</td>
<td>20.667</td>
<td>21.631</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>6.688</td>
<td>7</td>
<td>.955</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>68.690</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Gross Domestic Product, The Unemployment Rate, The Human Development Index.

The table above shows that the value of $F_{test}$ is 21.631 with the significant level 0.001. While $F_{table}$ on a confidence level of 95% ($\alpha = 0.05$) was 4.07. Because of these two calculations i.e. $F_{test} > F_{table}$ and their significance level 0.001 < 0.05 indicates that the independent variables namely unemployment rate ($X_1$), the human development index ($X_2$) and gross domestic product ($X_3$) simultaneously is an influential variable dependent that is significantly to the level of poverty in Indonesia ($Y$) in 2002-2013.

**T-test**
The results of the calculation of the t test in this research are:

**Table 4. The result of T-test.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>41.371</td>
<td>16.308</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>1.015</td>
<td>.277</td>
</tr>
<tr>
<td>The Human Development Index</td>
<td>-.483</td>
<td>.235</td>
</tr>
<tr>
<td>Gross Domestic Product</td>
<td>-.143</td>
<td>.611</td>
</tr>
</tbody>
</table>

a. Dependent Variable: The Level Of Poverty

Based on the above table, the level of significance of the unemployment rate variable ($X_1$) is 0.008. The significance of value is smaller than the value of the probability 0.05 or 0.008 < 0.05. The significance of value is smaller than the value of the variable probability of unemployment rate ($X_1$) with $t_{test}$ is 3.666 and $t_{table}$ is 1.85955 so $t_{test} > t_{table}$. So it can be inferred the unemployment rate effect in partial and significantly to the level of poverty in Indonesia year of 2002-2013.

The variable significance level of human development index ($X_2$) is 0.079. The significance of value is bigger than the value of the probability 0.05 or 0.079 >
0.05. Human Development Index variable \((X_2)\) has \(t_{\text{test}}\) is -2.050 with \(t_{\text{table}}\) is 1.85955, so \(t_{\text{test}} < t_{\text{table}}\). So it can be inferred the human development index had no effect on partial and significantly to the level of poverty in Indonesia year 2002-2013. The level of significance of the variable gross domestic product \((X_3)\) is 0.822. The significance of value greater than the value of the probability 0.05 or 0.822 > 0.05. The variable gross domestic product \((X_3)\) has \(t_{\text{test}}\) is -0.233 with \(t_{\text{table}}\) is 1.85955, so \(t_{\text{test}} < t_{\text{table}}\). So it can be inferred the gross domestic product had no effect of partial and significantly to the level of poverty in Indonesia year of 2002-2013.

**Determination Test**

The results of the calculation of the determination test in this research are:

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
<td>R Square</td>
<td>Adjusted R Square</td>
<td>Std. Error of the Estimate</td>
<td>Change Statistics</td>
</tr>
<tr>
<td>1</td>
<td>.950*</td>
<td>.903</td>
<td>.861</td>
<td>.97747</td>
<td>21.631</td>
</tr>
</tbody>
</table>

*a. Predictors: (Constant), Gross Domestic Product, The Unemployment Rate, The Human Development Index*

*b. Dependent Variable: The Level Of Poverty*

Based on the above table it can be seen that:
1. \( R = 0.950\), means the relationship between the variable unemployment rate \((X_1)\), the variable Human Development Index \((X_2)\) and the variable gross domestic product \((X_3)\) of the variable levels of poverty in Indonesia \((Y)\) of 95%. This means that the relationship is very strong.
2. \( Adjusted R Square = 0.903\), means 90,3% The Level Of Poverty \((Y)\) in Indonesia can be explained by the variable unemployment \((X_1)\), The variable human development index \((X_2)\) and the variable gross domestic product \((X_3)\). While remaining 9.7% can be explained by other variables – variables not examined by this study.

**Conclusions**

Based on the results of the analysis it can be concluded that:
1. Based on the result of multiple linear regression test, note that the unemployment rate effect was positive about the level of poverty in Indonesia year of 2002-2013, while the human development index and gross domestic product of negative effect of the level of poverty in Indonesia.
2. Based on the results of the \(f\) test, note that the unemployment rate, the human development index and gross domestic product effect simultaneously and significantly to the level of poverty in Indonesia year of 2002-2013.
3. Based on the results of the \(t\) test, noted that the unemployment rate effect partial to the poverty level in Indonesia while the human development index and gross domestic product have no effect partially of the level of poverty in the Indonesian.

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