The Influence of Economic Growth, Dependency Ratio, Education Level, and Minimum Wage on Poverty Levels in Kebumen Regency

Anisa Dwi Ayuningtyas¹, Niniek Imaningsih²
Universitas Pembangunan Nasional “Veteran” Jawa Timur, Indonesia¹
Universitas Pembangunan Nasional “Veteran” Jawa Timur, Indonesia²
Corresponding Email: anisadwiayu01@gmail.com*

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Abstract

Poverty is an issue faced by both developing and developed countries. Like other developing countries, Indonesia continues to strive to overcome the problem of poverty in its territory which is an obstacle to economic development in the country itself. This research was conducted with the aim of determining the effect of Economic Growth, Dependency Ratio, Education Level, and Minimum Wage on Poverty Levels in Kebumen Regency during the period 2005-2022. The data used in this research is secondary data obtained from the Kebumen Regency Central Statistics Agency (BPS). The method used in this research is quantitative using multiple linear regression analysis with the BLUE assumption (Best Linear Unbiased Estimate). So that the results obtained simultaneously are Economic Growth, Dependency Ratio, Education Level, and Minimum Wage which together have an effect on Poverty Level, while partially the Economic Growth variable has a negative and insignificant effect, the Dependency Ratio variable has a negative and insignificant effect, the Education Level variable has a positive effect significant, and the Minimum Wage variable has a significant negative effect on the Poverty Level in Kebumen Regency.

Keywords: Poverty Level, Economic Growth, Dependency Ratio, Education Level, Minimum Wage

Introduction

Poverty is an issue faced by both developing and developed countries, although poverty levels tend to be lower in developed countries compared to developing countries. Like other developing countries, Indonesia continues to strive to overcome the problem of poverty in its territory which is an obstacle to economic development in the country itself.
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The problems arising from poverty also have an impact on the welfare of society.

Poverty occurs when people in some areas are unable to meet their living needs according to standards. In terms of improving community welfare, this can be done through a sustainable development process with the aim of overcoming poverty (Millenia Putri & Zaini Putri, 2021). Development is the result of sustainable community efforts in the economic, human resources, natural resources, education and industry sectors, with the aim of improving the quality of life and realizing community welfare.

One of the hallmarks of poverty is the inability to meet basic necessities. Financial differences between high- and low-income communities, unequal income distribution, the number of people living in poverty, limited access to education, and rising unemployment rates are the main causes of poverty (Pratiwi & Malik, 2022). Clearly, these factors are interrelated and influence each other.

The economic growth and dependency ratios in each region are two other elements that affect the high and low levels of poverty. Economic growth is a useful metric for assessing how well a region's economic activity has produced income for its people over a certain time period, as seen by an increase in per capita income. It can also be used to gauge the region's overall economic advancement (Iksan & Arka, 2022).

The level of poverty can be minimized through the development process in an area. Development is a change that aims to achieve better results than previous conditions, involving various aspects to improve the welfare and competitiveness of society. Therefore, economic development is considered as an effective approach in reducing poverty levels.

Java Island is one of the islands in Indonesia which has the largest population and is the center of economic growth in this country. Central Java Province is one of the provinces with a population of 37,032,410 people. The high population in Central Java can cause population density which affects economic activity in the region. The higher the population, the higher the risk of problems occurring in the area. This is a concern for the Central Java Provincial government, where some of the population is still unable to meet their daily needs.

Kebumen Regency is an extreme area with the highest poverty rate compared to the
three other highest regencies in Central Java Province with a poverty percentage of 16.41% in 2022. Even though the poverty rate has decreased, this does not make Kebumen Regency out of areas with high levels of poverty, worst. Kebumen Regency is still an extreme area with the highest poverty rate in Central Java Province.

Kebumen Regency has advantages in the fields of processing industry and agriculture which are supported by supportive and spacious land and abundant natural resources, making it possible for some of its people to make a living as farmers. This makes some people dependent on the agricultural sector, even though during the harvest season it is possible that many farmers will experience crop failure.

**Literature Review**

**Poverty**

From a conceptual perspective, poverty is defined as a condition of life that is full of deficiencies in fulfilling basic human needs. Practically, poverty is measured using the poverty line as a reference. In determining the poverty threshold, it is important to determine the minimum requirements that allow a decent life for individuals, which includes aspects such as income, consumption expenditure, calorie needs, and other factors that form the basis of the calculation (Agustina et al., 2018a).

**Economic growth**

Economic growth is a long-term economic issue that includes actual economic activity. In real-world contexts, economic growth indicates how well a nation's production of commodities and services is doing financially. The aforementioned factors encompass amplified manufacturing of industrial goods, advancements in infrastructure, a rise in the quantity of educational establishments, expansion in the service industry, and heightened output of capital goods. In general, economic growth indicates economic activity that, given enough time, could bring in more money for society (Sukirno, 2018).

**Dependency Ratio**

The productive population aged between 15 and 64 years is generally considered to be the working age group. If the dependency ratio increases, this indicates that the population of productive age must face a heavier burden, because part of their income is used to support their own lives and also to finance the unproductive and unproductive population (Manik & Maulina, 2018).

**Level of education**

Education and training not only increase knowledge, but also improve work skills with the aim of increasing labor productivity. The relationship between education level and labor productivity is reflected in income levels. Investment in education is considered an important factor because it can create quality talent that can make a positive contribution to the economy and development (Mankiw & Reis, 2018).
Minimum wage

Wages are the term used to describe the financial or other rewards that an organization or company provides to its employees. Providing wages or rewards aims to maintain employee presence at work, maintain their motivation, and support the continuity of company operations, which in turn has a positive impact on society as a whole overall (Junaidi & Junaidi, 2023).

Research Method

This research is quantitative research using secondary data sourced from the Central Statistics Agency (BPS), articles, notes and other literature study results. The location of this research is Kebumen Regency, Central Java Province, with a sampling technique using annual data measured in time (time series) within a period of 18 years, namely 2005-2022. With independent variables consisting of Economic Growth, Dependency Ratio, Education Level, and Minimum Wage with the dependent variable Poverty Level.

In order to assess the association between the variables, multiple linear regression analysis using the BLUE assumption (Best Linear Unbiased Estimate) was employed in this study. Conventional assumption tests like normality, autocorrelation, multicollinearity, and heteroscedasticity tests were also performed. IBM SPSS (Statistic Program for Social Science) version 25.0 is used to assist with the test. In (Ghozali, 2018) general form of linear regression model multiples can be formulated as follows:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \ldots + \beta_nX_n + e \]

So from the general form of the multiple linear regression model above, then the multiple linear regression model that will be used in this research are as follows:

\[ TK = \beta_0 + \beta_1PE + \beta_2RK + \beta_3TP + \beta_4UM + e \]

Where:

- TK: Poverty level in Kebumen Regency
- ON: Economic growth
- RK: Dependency ratio
- City: Level of education
- ONE: Minimum wage
- \( \beta_0 \): Constant
- \( \beta_{1,2,3,4} \): Regression coefficient
- It is: error (nuisance variable)
Result

Normality Test

Figure 2 indicates that the graph normal probability plot follows a normal visual pattern. This is demonstrated by the data distribution points that spread around the diagonal line, with the distribution following the diagonal line's direction. As a result, we can infer that the regression model is appropriate for usage because it meets the normality assumption.

Autocorrelation Test

Table 1. Durbin-Watson Results

<table>
<thead>
<tr>
<th>Model Summary&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Statistics</td>
</tr>
<tr>
<td>R Square Change</td>
</tr>
<tr>
<td>.904</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Minimum wage, Economic growth, Dependency ratio, Education level

b. Dependent Variable: Poverty level

Source: Data Processed with SPSS 25
From the results of the autocorrelation test analysis in this study, it can be seen in table 4.6 with the DW values obtained test amounting to 1,580. Furthermore, to determine whether there are symptoms of autocorrelation in this research model, it can be proven by looking at the DW curve. In this research, it is known that the number of independent variables (k) is 4 and the number of data (n) is 18, so that the DW table values are dL=0.8204 and dU=1.8719, (4-dU)=2.1281 and (4-dL)=3.1796.

Based on the results of the autocorrelation test, the position of the DW value of 1.580 is between (dL) and (dU). This can be interpreted as the DW value is in an area of uncertainty (doubt). Therefore, researchers conducted a test Run Test To further ensure whether there are symptoms of autocorrelation or not in this study, use the following test results:

**Table 2. Run Test Results**

<table>
<thead>
<tr>
<th>Runs Test</th>
<th>Unstandardized Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Valuea</td>
<td>-.11913</td>
</tr>
<tr>
<td>Cases &lt; Test Value</td>
<td>9</td>
</tr>
<tr>
<td>Cases &gt;= Test Value</td>
<td>9</td>
</tr>
<tr>
<td>Total Cases</td>
<td>18</td>
</tr>
<tr>
<td>Number of Runs</td>
<td>7</td>
</tr>
<tr>
<td>Z</td>
<td>-1.215</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.224</td>
</tr>
</tbody>
</table>

Source: Data Processed with SPSS 25

It can be seen in table 2 that the test results Run Test in the Asymp section. Sig. (2-tailed) has a value of 0.224 > 0.05, so it can be concluded that in the test Run Test there are no symptoms of autocorrelation. This is because of the Asymp value. Sig. (2-tailed) greater than 0.05. Based on a series of autocorrelation test results that have been carried out above, it can be concluded that this research model has fulfilled the first basic assumption, namely that there is no autocorrelation.
Uji Multikolinearitas

Table 3. Multicollinearity Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic growth</td>
<td></td>
<td>.743</td>
<td>1.346</td>
</tr>
<tr>
<td>Dependency ratio</td>
<td></td>
<td>.195</td>
<td>5.140</td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
<td>.205</td>
<td>4.868</td>
</tr>
<tr>
<td>Minimum wage</td>
<td></td>
<td>.105</td>
<td>9.560</td>
</tr>
</tbody>
</table>

*Source: Data Processed with SPSS 25*

It can be seen in table 3 that the regression model for the four variables above does not experience symptoms of multicollinearity. This is proven by each variable with a value tolerance > 0.10 and the VIF value < 10. So it can be concluded that in this regression model there is no multicollinearity between the independent variables.

Heteroscedasticity Test

Table 4. Heteroscedasticity Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.735</td>
</tr>
<tr>
<td>Economic growth</td>
<td>.908</td>
</tr>
<tr>
<td>Dependency ratio</td>
<td>.323</td>
</tr>
<tr>
<td>Level of education</td>
<td>.407</td>
</tr>
<tr>
<td>Minimum wage</td>
<td>.174</td>
</tr>
</tbody>
</table>

*Source: Data Processed with SPSS 25*

It can be seen in table 4 using the test Glejser, that from each independent variable in the sig column. value greater than 0.05. Based on these results, it can be concluded that in this regression model there is no heteroscedasticity between the independent variables. From the test results above, it can be concluded that the regression model of this research has fulfilled the three basic assumptions, so further testing can be carried out.
Multiple Linear Regression Analysis

Table 5. Regression Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficientsa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
</tr>
<tr>
<td>Economic growth</td>
<td>-.378</td>
</tr>
<tr>
<td>Dependency ratio</td>
<td>-.080</td>
</tr>
<tr>
<td>Level of education</td>
<td>6.871</td>
</tr>
<tr>
<td>Minimum wage</td>
<td>-1.530E-5</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Poverty level

Source: Data Processed with SPSS 25

Based on the results of the analysis, the multiple linear regression equation obtained in this study is as follows:

\[ TK = \beta_0 + \beta_1PE + \beta_2RK + \beta_3TP + \beta_4UM + e \]

\[ TK = -2,383 - 0.378PE - 0.080RK + 6.871TP - 0.00001530UM \]

Based on the regression equation above, it can be explained as follows:

\( \box{0} \) = A constant value of -2.383 indicates that if Economic Growth (X1), Dependency Ratio (X2), Education Level (X3), and Minimum Wage (X4) are stable or constant, then the Poverty Level (Y) will decrease by 2.383%.

\( \box{1} \) = The regression coefficient of -0.378 indicates that Economic Growth (X1) has a negative effect, meaning that every one percent increase in Economic Growth (X1) the Poverty Level (Y) will decrease by 0.378%. Assuming X2, X3, and X4 are constant.

\( \box{2} \) = A regression coefficient of -0.080 indicates that the Dependency Ratio (X2) has a negative effect, meaning that every time there is a one percent increase in the Dependency Ratio (X2), the Poverty Level (Y) will decrease by 0.080%. Assuming X1, X3, and X4 are constant.

\( \box{3} \) = The regression coefficient of 6.871 shows that the Education Level (X3) has a positive effect, every time there is a one year increase in the Education Level (X3), the Poverty Level (Y) will increase by 6.871%. Assuming X1, X2, and X4 are constant.

\( \box{4} \) = The regression coefficient of -0.00001530 shows that the Minimum Wage (X4) has a negative effect, every time there is an increase of one rupiah in the Minimum Wage (X4), the Poverty Level (Y) will decrease by 0.00001530%. Assuming X1, X2, and X3 are constant.
Determination Coefficient Test ($R^2$)

### Table 6. Coefficient of Determination Test Results

<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>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.951a</td>
<td>.904</td>
<td>.874</td>
<td>1.76088</td>
<td>1.580</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Minimum wage, Economic growth, Dependency ratio, Education level

b. Dependent Variable: Poverty level

Source: Data Processed with SPSS 25

It can be seen in table 6 that the $R^2$ value is 0.904 or 90.4%. This can be interpreted as meaning that 90.4% of the independent variables Economic Growth ($X_1$), Dependency Ratio ($X_2$), Education Level ($X_3$), and Minimum Wage ($X_4$) are able to explain the dependent variable, namely Poverty Level ($Y$). Meanwhile, the remaining 9.6% can be explained by other factors not examined in this study.

F Test (Simultaneous)

### Table 7. F Test Results

<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>1</td>
<td>Regression</td>
<td>378.157</td>
<td>4</td>
<td>94.539</td>
<td>30.490</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>40.309</td>
<td>13</td>
<td>3.101</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>418.466</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Poverty level

b. Predictors: (Constant), Minimum wage, Economic growth, Dependency ratio, Education level

Source: Data Processed with SPSS 25

It can be seen in table 4.11 that from the results of the F test in this study, the calculated F value was 30.490 with a sig value of 0.000. The F table value with a significance level of 0.05 is $df_1 = 4$ (the number of independent variables), and $df_2 = 13$ is obtained from $(n-k-1)$ or $(18-4-1)$. So the F table value is 3.18, so the calculated F value is greater than the F table ($30.490 > 3.18$). So it can be concluded that the independent variables namely Economic Growth, Dependency Ratio, Education Level, and Minimum Wage together (simultaneously) have an influence on the dependent variable Poverty Level.
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T Test (Partial)

Table 8. t test results

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficientsa</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-2.383</td>
<td>14.736</td>
<td>-.162</td>
</tr>
<tr>
<td></td>
<td>Economic growth</td>
<td>-.378</td>
<td>.276</td>
<td>-.133</td>
</tr>
<tr>
<td></td>
<td>Dependency ratio</td>
<td>-.080</td>
<td>.198</td>
<td>-.083</td>
</tr>
<tr>
<td></td>
<td>Level of education</td>
<td>6.871</td>
<td>2.115</td>
<td>.710</td>
</tr>
<tr>
<td></td>
<td>Minimum wage</td>
<td>-1.530E-5</td>
<td>.000</td>
<td>-1.634</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Poverty level

Source: Data Processed with SPSS 25

Based on the results above, the following explanation is obtained:

1. The variable Economic Growth (X1) on Poverty Level (Y) produces a calculated t value < t table, namely -1.370 < 2.160 t table and a sig value. 0.194 > 0.05, so partially Economic Growth has no significant effect on Poverty Levels.

2. The variable Dependency Ratio (X2) on Poverty Level (Y) produces a calculated t value < t table, namely -0.405 < 2.160 t table and a sig value. 0.692 > 0.05, so that partially the Dependency Ratio does not have a significant effect on the Poverty Level.

3. The variable Education Level (X3) on Poverty Level (Y) produces a calculated t value > t table, namely 3.249 > 2.160 t table and a sig value. 0.006 < 0.05, so that partially the level of education has a significant effect on the level of poverty.

4. The variable Minimum Wage (X4) on Poverty Level (Y) produces a calculated t value > t table, namely -5.233 > 2.160 t table and a sig value. 0.000 < 0.05, so partially the Minimum Wage has a significant effect on the Poverty Level.

Discussion

Based on the research findings, it is clear that the economic growth variable has no significant influence on the poverty level variable in Kebumen Regency 2005-2022. This research is consistent with research undertaken by (Dinata et al., 2020) The findings of this study indicate that economic growth has no substantial impact on poverty in Riau Province, which is attributable to the unequal distribution of development and economic results.
throughout all districts in Riau Province.

A similar thing also happened in Kebumen Regency, one of the factors being the processing industry sector which is one of the leading sectors in Kebumen Regency. In terms of the development of the processing industry, the workforce is absorbed in Kebumen Regency, but this potential is still not accompanied by appropriate remuneration/wages that are accepted by processing industry workers. It can also be said that economic growth in Kebumen Regency has not been evenly distributed across every group and every sector. This happens in several poor communities, where the majority of them make their living as farmers in the agricultural sector.

Based on the research findings, the dependency ratio variable has no significant influence on the poverty level variable in Kebumen Regency 2005-2022. This research is consistent with research (Ruchiyani et al., 2022) which states that the influence dependency ratio on provincial poverty levels in Indonesia from 2016 to 2020 shows a negative but not significant relationship. This is due to the dominance of working age in the Indonesian population, which overall does not have a significant effect on poverty levels.

This is due to the increase in productive age and non-productive age which is dominated by young people (school age) compared to old age, and the burden of schooling is that young people tend to receive educational assistance from the local government. So the burden that must be borne by the productive age tends to be low and the productive age is still able to bear the burden of the remaining non-productive age. This research is also supported by research conducted (Arif et al., 2020) which states that dependency ratio does not have a real relationship with the incidence of poverty in Sragen, namely that there is a negative pattern between the dependency ratio and poverty.

Based on the research findings, the education level variable has a substantial influence on the poverty level variable in Kebumen Regency between 2005 and 2022. This research is consistent with research undertaken by (Agustina et al., 2018b) Education has a good and considerable impact on poverty in Aceh Province. This demonstrates that the area's degree of education has been ineffective in reducing poverty.

The average length of schooling in Kebumen Regency is still relatively low, namely under 12 years and has not completed high school education and has not reached the proposed target United National Development Program (UNDP) namely education for 15 years. Apart from that, a low level of education can affect a person's competition in the world of work with high incomes due to limited knowledge and skills. Other research also states that the level of education has a positive and significant effect, which means that if the level of education increases, then poverty will also increase and vice versa (Netri et al., 2023).

Based on the research findings, the minimum wage variable has a substantial influence on the poverty level variable in Kebumen Regency from 2005 to 2022. This research is backed by research (Hanifah & Hanifa, 2021) which shows that the minimum wage has a negative and significant effect on the poverty level in Lamongan Regency. An increase in the minimum wage every year can offer the salary that agencies provide to their
workers, thus protecting workers from being trapped in poverty and adapting it to workers' desires for a decent life.

Continuous increases in minimum wages can increase the income earned by workers. The high income received can increase the productivity of a worker, so that the welfare of workers also increases along with the basic needs of life and nutrition being well met and ultimately saving people from poverty.

**Conclusion**

Based on the results of the research mentioned above, we may conclude that the independent variables Economic Growth, Dependency Ratio, Education Level and Minimum Wage together (simultaneously) have an influence on the dependent variable Poverty Level in Kebumen Regency. Meanwhile, the Economic Growth and Dependency Ratio variables have no influence on the Poverty Level variable in Kebumen Regency. This shows that the rise and fall of Economic Growth and the Dependency Ratio cannot affect the poverty level. This is different from the Education Level and Minimum Wage variables which have an influence on the Poverty Level variable in Kebumen Regency, where every rise and fall in the Education Level and Minimum Wage can influence the poverty level.

**Suggestion**

Based on the explanation above, the author conveys several suggestions to the local government, namely that the government is expected to pay attention to every policy made to encourage the achievement of effective and equitable economic growth so that it can be felt by the entire community. Apart from that, it is important that the educational program assistance launched is so that it is rightly targeted according to community needs, in order to support higher and appropriate education in terms of increasing human resources. The government can also set a minimum wage policy in accordance with the minimum living standards in the region. Matching the value of compensation/wages for workers is also needed in every sector and group in Kebumen Regency in order to create long-term social welfare. The author's suggestions above can be taken into consideration in decision making by the local government.

**References**


