Analysis Of The Relationship Between Economic Growth And Poverty: Indonesian Case Study 2018-2022

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Abstract

Poverty and economic growth are two important problems in development that are interrelated. Economic expansion is expected to reduce poverty and improve people's welfare. However, depending on government policy and how income is allocated, economic growth does not always have a favorable impact on poverty. This research aims to look at the relationship between road density which represents infrastructure, life expectancy which represents health, and average years of schooling, and the illiteracy rate which represents education and development inequality between regions in Indonesia. This research uses a direct linear regression approach to examine the relationship between poverty and economic growth in Indonesia. The GDP growth rate is used in this research to measure the independent variable economic growth, while the proportion of the population living in poverty is used to assess the dependent variable poverty. The Indonesian Central Bureau of Statistics (BPS) provided secondary data for this research from 2018 to 2022. The findings show that poverty and economic growth.

Keyword : Economic growth, Poverty, Simple linear regression, The relationship of economic growth and poverty, Government policy
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Introduction

One metric used to assess a nation's economic performance is economic growth. The increase in the total value of goods and services produced in a nation over a specified time period typically a year is referred to as economic growth. Economic growth can be quantified using a variety of measures, such as the GDP, national income, and per capita income (Kirikkaleli et al., 2022).

GDP is the entire amount of finished products and services that a nation produces in a given year (Ouyang et al., 2020). Final goods and services don't require further processing; instead, they are prepared for community consumption or use. Cars, books, and rice are a few examples of finished items. Transportation, health care, and education are a few examples of final services. GDP does not determine the value of intermediate goods and services, which are goods and services used as inputs or raw materials to make final goods and services. Fuels, fertilizers, and seeds are a few examples of intermediate commodities. Advertising, insurance, and banking are a few instances of intermediary services. The production method, income method, and expenditure method are the three ways that GDP can be computed. Because each value generated by one sector of the economy must match the value received by another, all three ways must result in the same GDP value . A common measure of the size and expansion of a nation's economy is its GDP. Nevertheless, a number of significant factors, including income inequality, social welfare,

and environmental quality, are not included in GDP. Therefore, to obtain a more comprehensive view of a nation's economic situation, GDP must be supplemented with other metrics like the happiness index (IC) or the human development index (HDI). A country's national income is the entire value of the goods and services it generates during a given period of time, usually a year (Gibson et al., 2021).

National income is one of the main measures of a country's economic performance since it shows how much of the output is produced by its own production components (Magdalena & Suhatman, 2020). Additionally, national income can be broken down into a number of components, including net exports, government spending, investment, and consumption. These elements show where aggregate demand originates and how it propels economic activity. To provide a more precise figure, national income can also be adjusted for changes in stocks, depreciation, and inflation. According to Palma (2019), net national income is defined as national income adjusted for depreciation and stock changes, while real national income is defined as national income adjusted for inflation. The total number of people residing in a territory at any given time is known as the population of that country. Nonetheless, there are certain restrictions and difficulties in using national income to accurately depict a nation's true economic state. The amount that a nation's populace enjoys as its output cannot be gauged by national income. Furthermore, the amount of economic disparity that exists between various social groupings cannot be quantified by national income. Consequently, in order to more accurately and equally reflect a nation's socioeconomic status, national income needs to be paired with other metrics.

The total number of people residing in a territory at any given time is known as the population of that country. Nonetheless, there are certain restrictions and difficulties in using national income to accurately depict a nation's true economic state. The amount that a nation's populace enjoys as its output cannot be gauged by national income. Furthermore, the amount of economic disparity that exists between various social groupings cannot be quantified by national income. Consequently, in order to more accurately and equally reflect a nation's socioeconomic status, national income needs to be paired with other metrics (Timmis et al.,2022). If a person or group of people cannot satisfy their basic needs—which include things like food, clothes, housing, healthcare, education, and other necessities—they are deemed to be in a state of poverty . These circumstances may have a detrimental effect on a nation's capacity for development, human rights, and quality of life. Various indicators that can indicate different aspects of poverty, both monetary and non-monetary, are required to measure the amount of poverty. The human development index, multidimensional poverty index, and poverty line are often utilized metrics (Spicker, 2020).

According to Buheji et al. (2020), the poverty line is the minimal income or expenditure required for an individual to achieve their basic necessities, which include clothing, food, and shelter. Depending on the cost and style of life in a given country or location, the poverty threshold may differ. For instance, in 2020, the poverty line in Indonesia was approximately Rp 458,000 per month, whereas in the United States it is approximately $13,000 per year for an adult. This discrepancy is a result of the two nations' differing inflation, exchange rates, and purchasing power rates. As a result, the poverty line must be modified to account for local social and economic circumstances rather than being used as a benchmark for comparing poverty across national boundaries.

The multidimensional poverty index calculates the percentage of the population that lives in multidimensional poverty as well as the average level of poverty experienced by the general

public. A person is considered to be living in multidimensional poverty if they do not have assets, energy, fuel, clean water and sanitation, life expectancy, infant mortality rate, literacy rate, or at least one-third of the selected indicators. The number of indications that the destitute meet, divided by the entire number of indicators, yields the degree of poverty. Multiplying the percentage of the population living in poverty by the severity of that poverty yields the multidimensional poverty index (IKM). To compare poverty patterns and levels across nations, regions, or groups, utilize the multidimensional poverty index (IKM) . Developing strategies and allocating resources to combat multidimensional poverty can also be aided by the multidimensional poverty index (IKM) (Abdul Rahman, Sani, Hamdan, Ali Othman, & Abu Bakar, 2021). In addition to taking into account money, the multidimensional poverty index (SMI) also takes into account additional quality of life indices such as standard of living, health, and education (Vollmer & Alkire, 2022).

A measure of development advancement based on life expectancy, education level, and subjective well-being in addition to income is the human development index (HDI). By combining these three factors, the Human Development Index (HDI) generates a single number between 0 (lowest human development) and 1 (maximum human development). This indicator shows how well a country or region provides its citizens with the resources they require as well as the opportunity to live long, prosperous, and healthy lives. The HDI value indicates the level of human development in a country or region. On the other hand, the degree of human development in a nation or region decreases with a decreasing HDI rating (Hickel, 2020). These three indicators can assist us in identifying strategies and goals to combat poverty and enhance the welfare of people, as well as in understanding and comparing the rates of poverty in other nations or regions. Each of these metrics falls short in explaining the reality of poverty, even when they have excess funds. Numerous internal and external variables can contribute to poverty . Injustice, inequality, access restrictions, poor human resource quality, and a lack of social capital are examples of internal causes. Environmental, political, economic, social, cultural, and natural disaster situations are examples of external variables. These variables interact and affect the poverty rate of a nation (Magdalena & Suhatman, 2020). To reduce poverty in a comprehensive, inclusive, and long-lasting way, strategies are required. The poverty rate decreased during the first quarters of 2017 and 2022, as indicated by the chart, despite a rise in 2020 as a result of the COVID-19 pandemic, according to statistics from the Central Statistics Agency (BPS). 26.16 million people, or 9.54% of Indonesia's population, were living in poverty as of March 2022. A number of variables, including rising costs for essentials and declining purchasing power, can contribute to a rise in the trend of poverty (Valensisi, 2020).To tackle this issue, the government can implement measures including boosting employment, stabilizing the cost of essentials, and giving social support to those in need. Conversely, a decline in the trend of poverty may be due to a number of causes, including higher employment rates and economic growth . To hasten the eradication of poverty, the government can keep implementing the current programs and make them better (Ningrum et al., 2020).

One area of study interest is the connection between poverty and economic growth, since this relationship has significant policy consequences for development. Since strong economic growth can improve people's welfare, income, and employment prospects, it is theoretically predicted to lessen poverty. People with higher wages may be able to save money, invest, and cover their essential expenses. Increased employment possibilities can boost competence and production by absorbing underutilized or jobless labor. Quality of life, health, education, and social participation can all be enhanced by greater well-being (Fancourt & Finn, 2019). Empirical

studies, however, indicate that there isn't always a straight line or positive correlation between economic progress and poverty. Rather, it is contingent upon several factors, such as the allocation of income, the societal economic framework, the standard of institutions, and additional factors affecting inclusivity and the sustainability of growth. Unequal income distribution can exacerbate social and economic inequality in addition to decreasing the purchasing power and access of the destitute (Wade, 2020).

An undiversified economy is more vulnerable to swings and crises and may become overly dependent on particular industries. Poor institutions can impede the implementation of development initiatives that benefit the poor and cause political instability, bureaucracy, corruption, and inefficiencies. The degree of education, health, infrastructure, environment, social capital, and community involvement are other aspects that impact inclusivity and sustainable growth (Makridis & Wu, 2021). Low levels of education, inadequate infrastructure, poor sanitation and health, and low community involvement in political activities are examples of weak community capacity brought on by non-inclusive development goals (Onyishi et al., 2021). Thus, a thorough and comprehensive inquiry is necessary to look into the relationship between economic progress and poverty in a country as well as the variables that influence it (Khan et al., 2020)

The study "The Effect of Education, Health, and Infrastructure Level on Development Inequality Between Regions in Indonesia" looks at the relationship between road density, which represents infrastructure, life expectancy, which represents health, and average length of schooling and illiteracy rate, which represents education, in relation to development inequality between Indonesian regions. This study examines the relationship between poverty and Indonesia's economic growth using secondary data from the Central Statistics Agency (BPS) for the years 2018–2023.

Literature Review

Economic growth is the result of increased economic activity producing more goods and services for society. In this sense, a rise in the quantity of products and services generated within a community can be used to gauge its economic growth. Strong economic growth may be a sign of improved well being and progress in the community. A number of factors, including higher exports, higher investment, higher consumption, and higher output, can lead to economic growth (Alcaraz & Wender, 2020).

A country's increased output is the amount of goods and services it produces over a given time period. A rise in the quantity or quality of production inputs, including labor, capital, natural resources, and technology, can result in higher production . One country that has increased output is China, whose GDP increased from 1.2 trillion US dollars to 14.9 trillion US dollars between 2000 and 2020 (Litvinenko, 2020).

According to Lee and Lee (2020), increased consumption refers to the quantity of products and services people buy to satisfy their needs and aspirations. A rise in income, a fall in costs, a change in preferences, or a growth in population can all contribute to an increase in consumption. India is one nation that has seen a rise in consumption; from 0.6 trillion US dollars in private consumption in 2000 to 2.9 trillion US dollars in 2020, the nation has done so.

Businesses and governments that invest more money buy more goods and services to increase or improve production capacity. Higher profits, reduced interest rates, higher expectations, or stronger incentives can all lead to increased investment (Jackson et al., 2020). Vietnam is one nation that has seen an increase in investment; from 15.5% of GDP in 2000 to 28.9% of GDP in 2020, the nation has managed to boost its gross investment (Morrison, 2019).

According to Daengs et al. (2020), an increase in exports indicates a rise in the quantity of goods and services that a nation sells to another. A rise in worldwide demand, a fall in currency rates, an improvement in quality, or a rise in collaboration can all contribute to an increase in exports. One country that has experienced a surge in exports is Singapore, whose product and service exports went from 172.5 billion US dollars in 2000 to 511.8 billion US dollars in 2020. Yet, excessive economic expansion can also have negative repercussions like inflation and social inequality.

The general rise in prices for goods and services that reduces money's purchasing power is known as inflation. Demand exceeding supply, rising production costs, or an excess of money supply can all lead to inflation. Because they must spend more to purchase or manufacture products and services, governments, producers, and consumers can all suffer from inflation. Venezuela is one example of a nation with severe inflation; in 2020, the country's inflation rate hit 6,500% (Tien, 2021).

Social inequality is the difference between groups of people's income, wealth, opportunities, or rights. Unfair policies, monopolies, corruption, and discrimination can all lead to social inequality. Discontent, poverty, criminality, or social conflict can all result from social inequality (Protzer & Summerville, 2021). South Africa is one nation with a high level of social inequality; in 2019, its Gini coefficient was 0.63. Thus, balanced and sustained economic growth is the definition of healthy economic growth. Maintaining equilibrium between social, environmental, and economic growth is necessary to ensure sustainable economic growth (Sandberg et al., 2019).

Equal welfare improvements and a decrease in social inequality can lead to balanced economic growth. According to Walker et al. (2019), reducing social inequality entails closing the gaps between the affluent and the poor, the educated and the illiterate, and the powerful and the disadvantaged. Giving everyone equitable access to justice, work, health care, and education would help to lessen social inequality. Denmark is a prime example of a nation that has managed to reduce social inequality; in 2019, its Gini coefficient was 0.25, among the lowest globally. Encouraging everyone's quality of life and pleasure is essential to advancing society's welfare, irrespective of their background, gender, religion, or race.Enhancing public services, preserving the environment, upholding human rights, and promoting social involvement are some strategies to increase people's welfare equally Finland, which scored top in the world happiness index in 2020 with a score of 7.81 out of 10, is an example of a nation that has improved people's wellbeing evenly (Kuziemski & Misuraca, 2020).

Poverty is the condition of an individual or group of individuals who are unable to live their lives in a way that is considered humane. In contrast, poverty is defined as a state of lack or difficulty in providing one's basic necessities (Susman et al., 2019). When someone finds it difficult to meet their fundamental necessities, that person is considered impoverished. Poverty is a complex issue that is prevalent around the world, particularly in emerging nations like Indonesia.When a person or group is unable to meet basic necessities such as clothing, food, and housing, as well as possibilities for employment or business, education, and health care, they are considered to be in poverty. Due to its interdependence with geography, politics, culture, history, and other variables, poverty is one of the world's most severe and complicated socio economic issues. Poverty can lower quality of life, impede growth, worsen inequality, and spark war, among other negative effects on people, communities, and nations. The World Bank estimates that in 2017, 689 million people, or 9.2% of the world's population, were living below the international

poverty line, which is defined as earning less than $1.95 a day. Government, business, and civil society must work together and be committed to adopting suitable, successful, and long-lasting policies and programs in order to end poverty (Wassie, 2020).

Developing or underdeveloped nations are typically caught in a poverty cycle (Siddiqui et al., 2020). Nurkse defined the "circle of poverty" as a circular row of interrelated causes that interact and react in a way that renders a developing nation impoverished.For example, underprivileged people are often malnourished; their health deteriorates as a result of inadequate food; their body is weak and their working ability is low; as a result, they are impoverished. Eventually, they won't have enough to eat. When such circumstances pertain to the state as a whole, the proverb "A country is poor because it is poor" can be applied (Han et al., 2021).

From an economic perspective, poverty has three main causes. The first is macroeconomic in nature; poverty results from unequal resource allocation, which in turn leads to unequal income distribution; impoverished individuals have fewer and lower-quality resources. Low levels of education, unfortunate circumstances, genetics, or discrimination are the causes of the second kind of poverty. And disparities in capital ownership are the cause of the third type of poverty. On the other hand, there are a number of additional factors that contribute to poverty. The first is the human development index, since a low index would affect the quality of the human resources in the area (Yumashev et al., 2020).Therefore, per capita income is another element that contributes to poverty since low per capita income has an effect on people's purchasing power, which in turn affects the poverty issue. Poverty is a problem that is intimately tied to economic growth. Low economic growth can lead to higher unemployment, which in turn causes people's income to decline and lead to higher levels of poverty. Other elements, such as human resources (HR), investments, labor wages, inflation, farmer exchange rates, education levels, and health levels, can also contribute to poverty issues (Beegle et al.,2019).

The BPS uses the amount of rupiahs earned from food consumption (2100 per person per day from 52 types of commodities thought to represent the consumption patterns of the bottom layer of the population) and non-food consumption (45 types of food commodities from a national agreement that does not differentiate between rural and urban areas) to calculate the poverty rate. This 2100-calorie guideline, also known as the poverty line, is applicable to all age groups, genders, and estimations of the population's weight, physiological status, and degree of physical activity. It is said that someone is living in poverty if their income is below the federal poverty threshold.To put it simply and broadly, there are three ways to measure poverty: Complete Deprivation If a person's income is below the poverty line and insufficient to cover his essential needs, he falls into the category of the absolute poor. The idea is to establish a minimal income threshold that would satisfy a person's basic needs for clothing, food, and shelter in order to assure their survival. Comparative Deprivation Even if someone has been able to meet their basic necessities, their level of poverty is still far lower than that of the community in which they live.According to this theory, poverty is a dynamic term that either changes with people's living conditions or doesn't exist at all (De Haas, 2021).

Cultural Poverty People are labeled as culturally impoverished if they exhibit a lazy attitude and refuse to make an effort to enhance their standard of living, even in the face of support from others. Put another way, someone is poor due to his own mentality. Preferred standards are the basis for all measurements of poverty, and they are quite significant, particularly when it comes to consumption-based poverty lines. Thus, there are two components to the consumption-based poverty line: The amount of money needed to provide other fundamental requirements and

minimal standards varies widely, reflecting the expense of engaging in daily life (Husereau et al., 2022).

Empirical research commonly uses three markers of poverty . First, the incidence of poverty is defined as the proportion of individuals residing in families with yearly per capita consumption below the poverty line. The H ratio is another name for the index. Second, the depth of poverty, sometimes referred to as the poverty gap index, describes the extent of poverty in 67 regions as determined by the poverty distance index (IJK). This index determines, as a percentage of the line, the average income difference between the impoverished and the poverty line. Third, the poverty severity index (IKK) measures how severe the poverty is. The IJK and this index are equivalent in theory. Nevertheless, CCI assesses inequality, or the distribution of spending among the impoverished, in addition to the gap between them and the poverty line. The Distributionally Sensitive Indicator, another name for this indicator, is also useful for estimating the degree of poverty (Nugraha, et al.,2020).

Economic expansion will lead to inequality in the distribution of the additional money (ceteris paribus), which will further establish a condition for economic growth with an increase in poverty (Nugraha et al.,2020) .Economic growth will also result in increased unemployment. Growth and poverty are strongly correlated since the number of impoverished individuals gradually declines as development approaches its end and the poverty rate tends to rise in the early stages of the process.Poverty and economic growth are two significant problems in development that are linked. It is anticipated that economic expansion will lessen poverty and enhance people's welfare. However, depending on government policies and how revenue is allocated, economic growth does not always have a favorable impact on poverty. As a result, research is required to determine the degree to which poverty is impacted by economic growth (Mhlanga, 2021).

Null hypothesis ($\square_0$): There is no discernible relationship between economic growth and poverty in Indonesia. Hypothesis 1 alternative ($\square_1$): Poverty in Indonesia is significantly impacted by economic growth.A straightforward linear regression approach can be used to test this hypothesis by computing the t test, correlation coefficient, and coefficient of determination ($\square^2$). Poverty and economic growth have a strong, one-way relationship if the $\square^2$ and r values are close to 1 (Erlando & Masakazu, 2020). The alternative hypothesis is accepted and the null hypothesis is rejected if, at a certain level of significance, the calculated t value is greater than the t table value. This indicates that poverty in Indonesia is significantly impacted by economic growth.

Research Method

This investigation used a basic linear regression approach. The relationship between one independent variable and one dependent variable can be measured with the help of this statistical tool. The percentage of the population living in poverty is used to measure the dependent variable (Y), and the GDP growth rate is used to measure the independent variable (X), which is economic growth. The Indonesian Central Bureau of Statistics (BPS) provided secondary data for this study for the years 2018 through 2022. The information was taken from BPS's official website. This study employs quantitative methodology, which is a method of conducting research that uses numerical data to generate objective, statistical measures. Sampling from the population is another research technique used in this study. It involves choosing a subset of the total population that is thought to be representative of the features of that population. The population can be sampled using a variety of techniques, such as stratified random sampling, basic random sampling, systematic sampling, and cluster random sampling. The method of

sampling that is used must take into account the goals, characteristics, and accessibility of the research data. Researchers can reduce the time, expense, and effort required for data collection by employing population sampling, which also increases the validity and accuracy of study findings. Therefore, it is expected that this study will produce reliable and accurate conclusions about how poverty and economic growth are related in Indonesia.

To investigate the connection between poverty and economic growth, a straightforward regression technique based on secondary data from the Central Statistics Agency for the years 2018–2022 can be utilized. This study adopts a quantitative methodology, using population sampling to generate objective statistical measurements based on numerical data. To examine the relationship between one dependent variable and one independent variable, a straightforward regression analysis is performed. The direction and strength of the independent variable's influence on the dependent variable are ascertained through simple regression. A simple regression analysis was used in this study to test the research hypothesis, which asks whether poverty and economic growth have a meaningful relationship. Excel is the statistical software used for this investigation. $Y = a + bx$ is the equation used in a basic regression model. The symbol Y represents the average monthly number of workers, the sum of the values (Rp) of the production of items produced, a constant, and a regression coefficient.

The significance and ramifications of a simple regression analysis can only be understood by considering the values for the t test, F test, and coefficient of determination. The coefficient of determination, often denoted by R, has a range of 0 to 1. When the regression model's R value is near 1, it suggests that the regression model can effectively explain the variance in annual economic growth; conversely, when the regression model's R value is near 0, it suggests that the model can't adequately explain the variance in yearly economic growth. The quality and applicability of the regression model to the given data can also be assessed using the R value.

The t-test value shows that there is a significant correlation between annual economic growth and the percentage of the poor, according to the linear regression analysis. The t test, denoted by the letter t, is defined as the ratio of the regression coefficient to the regression coefficient's standard error. A large t-value indicates a significant impact of the regression coefficient on the dependent variable, while a small t-value indicates no significant effect at all of the regression coefficient. Comparing the value of t can also be done using the critical value of t, which is determined by the degrees of freedom and importance. The null hypothesis, which states there is no influence, is true if the value of t is higher than the critical value of t.

Table 1. Variable description

Variable	Kind	Size	Source
Economic growth	Independent	Gross Domestic Product (GDP) growth rate	Central Bureau of Statistics (BPS)
Poverty	Dependent	Percentage of poor people	Central Bureau of Statistics (BPS)

Result and Discussion

The simple linear regression method is intended to be able to find out The independent variable that has an influence on the dependent variable is annual economic growth (X). Namely the percentage of poor people (Y) in 2018–2022. The following is the data we used in this research.

Table 2. Data on Annual Economic Growth and Percentage of Poor People 2018-2022

Year	Annual Economic Growth (%)	Percentage of Poor People (%)
2018	5,17	9,66
2019	5,02	9,22
2020	-3,70	10,19
2021	3,70	9,78
2022	5,31	9,94

The Central Statistics Agency (BPS) data indicates that there was some variation in the rate of economic growth between 2018 and 2022. The economy grew by 5.17% and 5.02% in 2018 and 2019, respectively. However, the COVID-19 pandemic caused the economy to grow by -3.70% in 2020. In 2021 and 2022, the GDP increased by 3.70 percent and 5.31 percent, respectively. In the interim, figures from 2018 and 2019 indicated that 9.66% and 9.22%, respectively, of the population lived in poverty. But in 2020, the COVID-19 epidemic increased the number of people living in poverty to 10.19% of the total. In 2021 and 2022, the percentage of the destitute decreased even further, to 9.78% and 9.94%, respectively.

Table 3. Coefficient of Determination of Summary Output

Regression Statistic	
Multiple R	0,6763326057
R Square	0,4574257935
Adjust R Square	0,2765677247
Standard Error	0,3064571389
Observation	5

The correlation coefficients fall into different ranges: r = 0 > 0.5 indicates a weak positive correlation, r = -0.5 < -1 indicates a strong negative correlation, and r = 0.5 > 1 indicates a strong positive connection. Two variables can be related to each other by using a statistical metric called the correlation coefficient (r). When two variables have a negative correlation, one increases and the other declines, and vice versa. When two variables have a positive correlation, one will rise when the other does, and vice versa. A poor correlation suggests that the variables have a less clear-cut and unpredictable relationship. A close and consistent association between the variables is indicated by a high correlation. The range of correlation coefficients (r) can be used to understand the results of a study on the correlation between two variables.

The computation results in a correlation value of 0.6763326057, suggesting a strong and positive association since the correlation coefficient (r) is between 0.5 and 1. The correlation coefficient is a statistical measure that shows how closely two variables are related to one another. When

two variables have a positive correlation, one will rise when the other does, and vice versa. A strong correlation indicates a close and stable relationship between the variables. Thus, it may be inferred from the computations' findings that the two variables under study have a substantial and positive association.

Correlation Coefficient t Test

The correlation coefficient t test is proved by the H_0hypotheses : (The correlation in the population is zero) and $P = 0$: 0 H_1(The $P \neq$ correlation in the population is different from zero. After obtaining data from the hypothesis test, it is necessary to test the criteria if t_{hitung} > then : t_{tabel} rejected and if H_0< $P = 0$then t_{hitung}: t_{tabel} H_0 $P \neq 0$ accepted. Test the significance of correlation using the statistic t with the formula

$t = r\sqrt{n-2} \div 1 - r^2$ = 0.6763$\sqrt{5-2} \div$ 1-0,6763^2

t = 2.1587

This hypothesis suggests that, based on data from 2018 to 2022, there is a correlation between annual economic growth and the percentage of the population living in poverty.

R Square (r^2)

The R square statistic in a regression model shows how much the independent variable affects the dependent variable. A R square value of 0.4574257935 suggests that, of the total population living in poverty in 2018–2022, 45.74% were impacted by yearly economic growth during this time, while 54.26% were determined by variables outside the purview of this investigation.. The degree to which the independent variable can explain the variance in the dependent variable is shown by a statistical measure known as the R square value. The dependent variable is significantly impacted by the independent variable when the values are close to one, and vice versa. The value of R square falls between 0 and 1. Thus, it can be concluded from the results of these calculations that although annual economic growth has a moderate effect on the percentage of the people living in poverty, other factors, including infrastructure, government policies, health, and education, also play a part.

Table 4. Test F ANOVA

	Df	**SS**	**MS**	**F**	**Significance F**
Regression	1	0,237532066	0,237532066	2,529197599	0,209982567
Residuals	3	0,281747934	0,093915978		
Total	4	0,51928			

Statistical tests were performed to determine the significance level of the two variables. The association between the two variables is significant if the significant number F < 0.01, and not significant if the significant number F > 0.01, according to the results.

F_hitung is 2.529197599, and 0.209982567 is the significance level. When k = 1 and n = 5, the value of F_tabell = (k; n-k) yielded a value of 0.25 for = F_tabel1; 4. F count (2.529197599) > F table (0.25), and 0.209982567 > 0.01 is the significance level. From 2018 to 2022, economic development will have some influence on the percentage of people living in poverty, but not a significant one, as these results show that H_(0) was rejected. This suggests that the percentage

of people living in poverty and the economic growth variable do not significantly correlate. Stated differently, the percentage of the population living in poverty does not significantly change in response to changes in economic growth. The findings of this study support the Kuznets Curve theory, which postulates an inverse U-shaped link between poverty and economic growth. That is, poverty will rise during the early phases of economic growth but fall during the latter stages.

Table 5. Simple Linear Regression Test

	Coefficients	**Standard Error**	**t Stat**	**P-value**
Intercept	9,953941832	0,184291043	54,01207611	1,39786
x	-0,063207043	0,03974423	-1,59034512	0,209982567

Table 3 displays the results of a simple linear regression test used to determine how the independent variable of annual economic growth (X) affected the variable of the percentage of impoverished people in Indonesia from 2018 to 2022 (Y). This can be used to generate a regression equation model using the following formula: Y = 9.953941832 − 0.063207043X. The regression equation states that a constant value of 9.953941832 means that, in the event that Indonesia's average yearly economic growth from 2018 to 2022 stays constant or equals 0 (zero), the total output value created will be 9.953941832.

The average proportion of the impoverished in Indonesia from 2018 to 2022, as measured by the variable regression coefficient, is -0.063207043. This indicates that an increase or addition to the average number of impoverished people causes an annual decline in economic growth in Indonesia of -0.063207043. The average percentage of destitute people in Indonesia is negative, indicating a disproportionate relationship between economic growth and the number of disadvantaged people living in the nation. This suggests that the percentage of the population living in poverty decreases as economic growth increases, and vice versa. This unidirectional relationship can be explained by a wide range of variables, such as wealth inequality, the quality of human resources, regional development, social programs, and others. Therefore, if economic progress is not matched with fairness and improvements in the welfare of the populace, it is not always guaranteed to result in a major decrease in poverty. This suggests that the percentage of the population living in poverty decreases as economic growth increases, and vice versa. This unidirectional relationship can be explained by a wide range of variables, such as wealth inequality, the quality of human resources, regional development, social programs, and others. The proportion of impoverished people in Indonesia increases with decreasing economic growth.

Conclusion

According to the study's findings, Indonesia's percentage of impoverished people (%) will be significantly impacted negatively by annual economic growth (%) between 2018 and 2022. Thus, efforts must be made to promote inclusive and sustainable economic growth in order to lower poverty in Indonesia. Economic growth that is inclusive means that all societal levels, particularly the weak and impoverished, gain equally from it. Sustainable economic growth is defined as growth that does not jeopardize future generations or natural resources in favor of social and environmental considerations. Future studies are advised to look into additional

aspects of poverty in Indonesia, including economic disparity, educational attainment, health access, and political engagement. Future studies can also look at the effects of government initiatives like direct cash transfers, social protection programs, and community economic empowerment that are meant to combat poverty.

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