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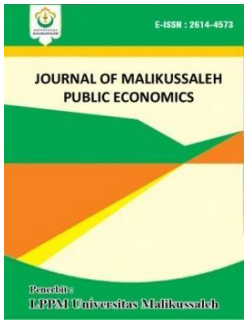
THE EFFECTS OF ECONOMIC GROWTH, POPULATION GROWTH, AND UNEMPLOYMENT ON POVERTY LEVELS IN INDONESIA



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ARTICLEINFORMATION

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Poverty, Economic Growth,
Population Growth,
Unemployment,
Auto Regressive Distributed Lag

ABSTRACT

This study aims to analyze the effect of economic growth, population growth, and unemployment on poverty levels in Indonesia in both the short and long run. The data used are time series data for the period 1991–2024, sourced from the Central Bureau of Statistics and the World Bank. The analytical method employed is the Auto Regressive Distributed Lag (ARDL) model to examine both short-term and long-term relationships among variables. The results show that in the short run, economic growth has a negative effect on poverty levels in Indonesia, while population growth and unemployment have positive effects on poverty levels. In the long run, economic growth also has a negative effect on poverty levels, whereas population growth and unemployment continue to have positive effects on poverty levels. This implies that an increase in economic growth can reduce poverty levels. Conversely, population growth and unemployment contribute to an increase in poverty levels.

1. INTRODUCTION

Poverty is a complex problem in developing countries. Poverty is particularly significant in Indonesia because it can lead to difficulties in meeting basic needs (Sinaga, 2022) . *The World Bank* (1990) defines poverty as a condition where a person is unable to meet the most basic living standards. Fundamental rights that are generally recognized include the fulfillment of food needs, health services, access to education, employment opportunities, adequate housing, the availability of clean water, land security, the use of natural resources, a healthy environment, a sense of security from acts or threats of violence, and the right to participate in social and political life. (Tri, 2023) .

According to the Central Statistics Agency (BPS), the poor in Indonesia are defined as those living below the poverty line, characterized by inadequate living conditions, such as the large number of families living in uninhabitable homes, limited access to clean water and proper sanitation, and the prevalence of malnourished children and adults. This poverty also contributes to the high incidence of stunting in Indonesia, which is a result of inadequate nutritional intake for pregnant mothers, infants, and children under five. Currently, the number of children experiencing stunting in Indonesia has reached approximately 6.4 million, equivalent to 21 percent of the total child population, indicating that poverty remains a structural problem that directly impacts the quality of human resources in Indonesia (Ministry of Health of the Republic of Indonesia, 2023).

Based on data from the Central Statistics Agency (BPS) Indonesia, 8.57 percent, or approximately 24.06 million Indonesians, are recorded as experiencing poverty based on data from BPS Indonesia (2024) . The provinces in Indonesia with the highest poverty rates are Papua with a percentage of 26.80 percent, which is above the national average, followed by West Papua, East Nusa Tenggara (NTT), Maluku, and Gorontalo (Suhendi *et al* ., 2023). The high poverty rates in these regions reflect the limitations of the community in meeting basic needs. The following is the development of poverty rates in Indonesia in 2018-2024.

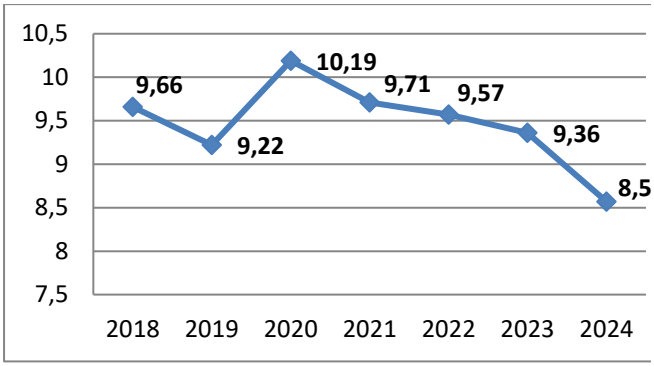

Figure 1. Poverty Rate and Poverty Line in Indonesia, 2018–2024

Source: Badan Pusat Statistik Indonesia (BPS)

Figure 1 shows that the poverty rate in Indonesia fluctuated between 2018 and 2024, but tended to show a downward trend. In 2018, the poverty rate was recorded at 9.66 percent and decreased to 9.22 percent in 2019. This decline was supported by relatively stable economic growth, government policies to reduce social inequality, and the implementation of social assistance programs for low-income communities. However, in 2020, the poverty rate increased to 10.19 percent. This increase in poverty was caused by the Covid-19 outbreak, which had a broad impact on the national economy. The pandemic caused many workers to experience layoffs and lose their sources of income, resulting in vulnerable groups falling back into poverty (Novriansyah, 2025).

Furthermore, from 2021 to 2024, the poverty rate decreased again, from 9.71 percent in 2021 to 8.57 percent in 2024. This decline reflects a gradual economic recovery following the Covid-19 pandemic, marked by improved economic activity, increased employment opportunities, and the continuation of government social protection programs. Furthermore, the effectiveness of social assistance and economic stimulus programs played a role in maintaining people's purchasing power and reducing poverty levels during the recovery period (BPS Indonesia, 2020). Poverty is closely linked to economic growth. High poverty rates indicate that many people are unable to participate optimally in economic activities. Limited access to education, health care, and decent work leads to low productivity among the poor. This condition results in low incomes and ultimately hinders economic growth.

Indonesia recorded Gross Domestic Product (GDP) growth at constant prices (ADHK) in 2024 reaching around IDR 12.92 trillion, an important indicator that shows the total value of goods and services produced domestically after adjusting for inflation. This data also shows that Indonesia's economic growth in 2024 grew around 5.03% annually (BPS Indonesia, 2024) . However, the Indonesian economy faces serious challenges, such as the decline in the agricultural and socio-economic sectors. Although Indonesia's resource sector contributes significantly to the economy, this sector is also sensitive to fluctuations in global commodity prices, which can affect national economic stability (Pasaribu *et al* ., 2025) . The following is data on economic growth in Indonesia in 2018-2024.

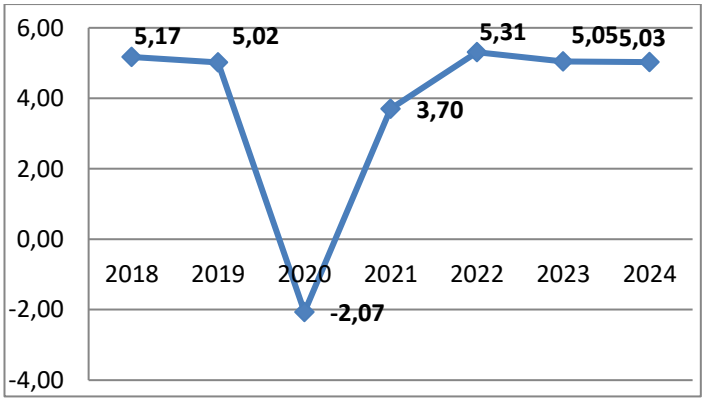

Figure 2. Economic Growth in Indonesia, 2018–2024

Source: World Bank Data (2024)

Figure 2 shows that economic growth in Indonesia from 2018-2024 experienced fluctuations , but still showed a recovery trend after the *Covid-19 pandemic* . Economic growth is measured using Real Gross Domestic Product (GDP) Growth at Constant Prices (ADHK base year 2015). It can be seen that in 2018, economic growth reached 5.17 percent until 2019 decreased slightly to 5.02 percent, then contracted sharply in 2020 at -2.07 percent where economic growth in Indonesia was affected by the *Covid-19 pandemic* which weakened various economic sectors.

After experiencing a contraction in 2020, the economy began to show recovery in 2021, with a growth rate of 3.70 percent. This recovery was marked by increased activity in various key sectors previously impacted, such as manufacturing, trade, services, and tourism, along with the easing of social restrictions. The government played a key role in driving the recovery process through various policies, including the National Economic Recovery Program (PEN), tax incentives, and the distribution of social assistance (bansos) aimed at increasing public consumption and encouraging investment. Furthermore, in 2022, the economy continued to show positive performance with growth of 5.31 percent, indicating that the economy was on a stable recovery path (Rudy *et al* ., 2020) .

From 2023 to 2024, economic growth declined slightly to 5.05 percent to 5.03 percent, but remained at a positive level, indicating that despite the decline, performance remained stable and quite good. Overall, despite fluctuations, this data indicates recovery and stability, leading to better performance after the challenging year of 2020 (Setyowati, 2018) . In addition to economic growth, poverty rates are also influenced by population growth. High population growth will increase the number of people needing jobs and livelihoods. If population growth is not balanced by the availability of jobs and improvements in the quality of human resources, the number of poor people will tend to increase. Thus, population growth is closely linked to poverty because it can increase economic pressure on households and the government.

Population growth is also a crucial component influencing poverty levels in Indonesia (Sari *et al* ., 2024) . Population growth represents a dynamic balance between forces that increase and decrease the population. The population is continuously influenced by the number of births (*fertility*), but simultaneously reduced by the number of deaths (*mortality*) that occur in all age groups. Migration *also* influences the increase or decrease in the population of a region or country. If population growth is faster than economic growth, available resources such as employment, food, education, and health services will become increasingly limited. This condition is associated with low per capita income and high poverty rates (Rahmulyana *et al.* , 2024) . The following is the development of population growth in Indonesia in 2018-2024.

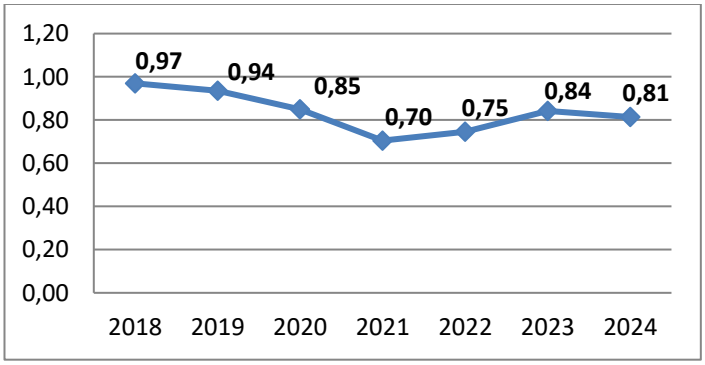

Figure 3. Population Growth in Indonesia, 2018–2024

Source: World Bank Data (2024)

Figure 3 shows that population growth in Indonesia from 2018-2024 has experienced a gradual downward trend since 2018, population growth was recorded at 0.97 percent and decreased to 0.94 percent in 2019. This decline reflects a decline in the birth rate (*fertility rate*), which shows that the average number of children born to women is less than before, thus directly suppressing population growth (*World Bank Group* , 2019) .

In 2020, population growth declined again to 0.85 percent due to the impact of the *COVID-19 pandemic* . The pandemic caused an increase in mortality, disruption of health services, and changes in population mobility and migration, which temporarily reduced

population growth. Subsequently, in 2021, population growth was recorded at 0.70 percent and increased slightly in 2022 to 0.75 percent. Furthermore, during the pandemic, there were delays in population administration registration, changes in migration patterns such as temporary urbanization and return to hometowns, and a short-term decline in births due to economic uncertainty. These factors influenced the decline in population growth in 2020-2021 (Msemburi *et al.* , 2023) .

From 2023 to 2024, population growth was recorded at 0.84 percent and 0.81 percent, respectively. This indicates a recovery from the *COVID-19 pandemic* , marked by a decline in mortality after the worst wave of the pandemic, improvements in population administration records, and a recovery in birth rates and migration back to urban areas in line with economic activity. However, this increase has not been enough to return the population growth rate to pre-pandemic levels due to long-term structural factors, such as urbanization and increasing education levels (Statistics, 2025) .

Another factor influencing poverty levels is unemployment. High unemployment rates indicate that many working-age people lack a steady income. This condition limits people's ability to meet basic needs, thus closely linking unemployment to high poverty levels. Unemployment is closely linked to poverty levels in both developing and developed countries. Unemployment presents limitations that require attention, as its occurrence significantly impacts poverty (Syahrani *et al.,* 2024) .

Unemployment is a key economic indicator, reflecting the number of workers not absorbed in the labor market. Unemployment in Indonesia occurs because the number of jobs cannot meet the workforce, or because the demand for jobs is not balanced with the supply of jobs. This results in an increase in the labor force that exceeds the number of job opportunities.

According to Prasetya & Sumanto (2022), the unemployment rate is measured using the percentage of the number of unemployed people compared to the total workforce, which indicates the proportion of the working-age population who are unemployed but are looking for work. Unemployment is defined as individuals who are unemployed but are trying to find work, are preparing to start a business or work, or those who have found work but have not yet started working.

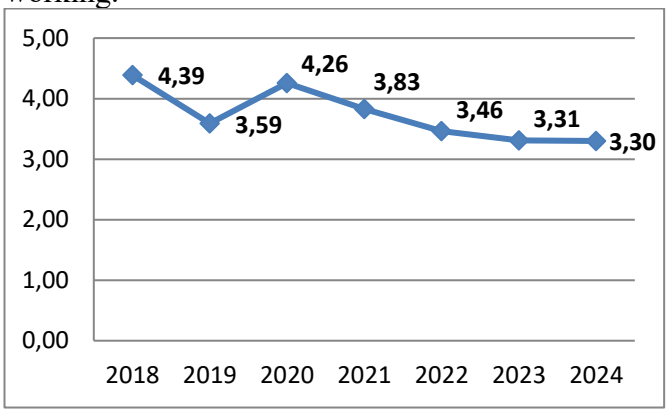

Figure 4. Unemployment Rate in Indonesia, 2018–2024

Source: World Bank Data (2024)

Figure 4 shows that unemployment in Indonesia from 2018 to 2024 can be seen in 2018 at 4.39 percent to 2019 at 3.59 percent, indicating an increase in labor absorption and reflecting relatively stable economic conditions and an improving labor market. However, in 2020, it was at 4.26 percent when the impact of the *Covid-19 pandemic* began to be felt, as many business sectors ceased operations and led to layoffs. In 2021, it was at 3.83 percent and in 2022 at 3.46 percent even though the economy began to gradually recover.

In 2023 to 2024, unemployment was at 3.31 percent and in 2024 at 3.30 percent, indicating that there was a more pronounced recovery with unemployment decreasing. This fluctuation indicates that unemployment is very sensitive to economic conditions, public health crises such as pandemics, and the effectiveness of government policies in creating inclusive employment.

Several previous studies related to the variables of economic growth, population growth and unemployment that affect poverty in Indonesia, including research by Ramadhan, (2025), Ginting & Rasbin, (2017) , Simanjuntak & Solihin, (2025), which concluded that economic growth has a negative effect on

poverty in Indonesia. The results of research by Juli *et al,* (2024), Yoseb *et al.*, (2024), Hutabarat *et al.,* (2023) , concluded that population growth has a positive effect on poverty in Indonesia. The results of research by Karuniawan & Soelistyo, (2022) , Sinaga *et al.* (2024), and Kurniawan *et al.* (2024) concluded that unemployment has a positive effect on poverty in Indonesia.

Based on the empirical gaps described above, a comprehensive long-term analysis is needed to understand the factors influencing poverty levels in Indonesia. This study fills this research gap by applying the ARDL model framework over 34 years to assess the short- and long-term relationships between economic growth, population growth, and unemployment on poverty levels.

Gap exists because previous results have been inconsistent and unable to comprehensively explain the factors influencing poverty. Most studies only analyze the effects of economic growth, population growth, and unemployment separately. Furthermore, the methods used generally fail to explain both short-term and long-term relationships simultaneously. Research using long-term *time series data* and methods capable of capturing the dynamics of economic adjustment, such as *Auto Regressive Distributed Lag* (ARDL), is still relatively limited. Therefore, this study aims to fill this gap by analyzing the effects of economic growth, population growth, and unemployment on poverty in Indonesia using a single short-term and long-term analysis model.

2. THEORETICAL STUDY

Absolute and relative, that occurs in a region. Absolute poverty describes a situation where a person is unable to meet the most minimal basic needs, such as food, clothing, shelter, housing, and other basic needs. Meanwhile, relative poverty refers to a person's condition of poverty which is assessed by comparing their income level to other community groups, especially based on the amount of wages or income received by each income group. In other words, poverty reflects a situation where a person is unable to maintain survival according to the standards of his social group, and has not been able to utilize his physical and mental potential optimally in community life.

Economic Growth

Economic growth is a process in which the sum of economic activity is continuously produced over a certain period. Thus, economic growth reflects the sum of economic activity as it continues to increase over time. In his book, entitled Theory of Economic Growth, Iannal et al., (2024), defines economic growth as a process of economic development that occurs continuously over a certain period. This concept is often interpreted as an increase in the physical production of an economy, which is clearly seen in the increase in national population growth.

Population Growth

The increase in the number of people in a given area in a given area compared to the previous area. This increase in population represents a dynamic balance between the population growth and the population growth (Talnjulng et al., 2025).

Unemployment

Unemployment is a situation in which someone is unable to find work and is unable to find work. Unemployment can be caused by various factors, such as unemployment, unemployment, and economic instability. Unemployment does not necessarily mean being unemployed, but it also indicates the inability to fulfill the needs of life. This malsallalh tidlk hall memengahrulhi pribaldi yang almalminyal, tetalpi julgal menyuklbkaln berbalgali malsallalh sosiall daln ekonomi di tinggatl malsyalralkalt secalral keselulrulhaln (Setyalwaln et all., 2021).

Conceptual Framework

From the results of the explanation that has been outlined above, the conceptual framework can be described as follows:

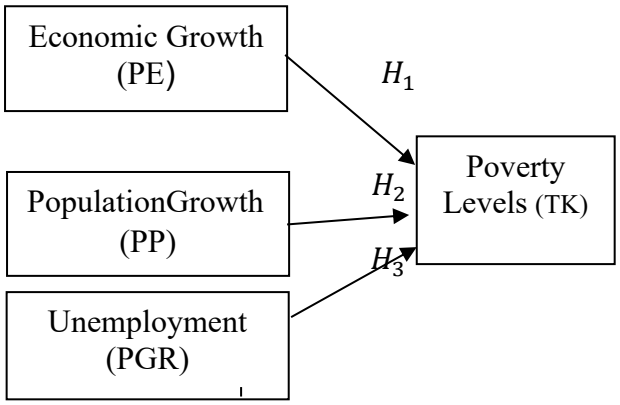

Figure 5. Conceptual Framework

The conceptual framework above explains that each variable will be tested individually using a panel data model. This will then yield the test results for each variable and its intercept value.

Hypothesis

Hypothesis is suspicion temporary Which formulated with the aim of testing its truth empirically Gujarati and Porter (2009) . Based on the formulation of the problem and framework conceptual, so hypothesis in study This can formulated as the following :

H *1* : It is suspected that economic growth has a significant influence on poverty levels in Indonesia in the short and long term.

H *2* : It is suspected that population growth has a significant influence on poverty levels in Indonesia in the short and long term.

H *3* : It is suspected that unemployment has a significant influence on poverty levels in Indonesia in the short and long term.

3. RESEARCH METHODS

Data analysis method used to explain the analysis of poverty levels in Indonesia includes the influence of economic growth *(*PE), population growth *(PP) and unemployment (PGR)* variables using ARDL regression. According to Pesaran and Shin (2001), *the Autoregressive Distributed Lag* (ARDL) method *was* chosen because it is able to periodically analyze the influence of the variables Y and X , including the influence of Y in the past on the current value of Y. This model separates short - term and catch - all responses from variables that are measured in relation to changes in a person . u nit on a v ari a independent bell . The regression equation ARDL *(* n , m) is expressed in the form of the following equation (Dimitrio u s , 2011) .

$$Y_t = \mu + \sum_{i=1}^{n} \alpha_i Y_{t-i} + \sum_{i=0}^{m} \delta_i X_{t-i} + u_t$$

There are Au *toregressive* Distribuled Lag (ARDL) models that are econometric models that explain the variables that are included in the rent . ng w a k t u before u mnya a . The ARDL model is divided into two , namely the short range ARDL model and the long range A RDL model In addition , the following is the RDL model in this research:

$$\Delta TK_t = \alpha_0 + \sum_{i=1}^{n1} \alpha_1 \Delta TK_{t-i} + \sum_{i=0}^{n2} \alpha_2 \Delta PE_{t-i} + \sum_{i=0}^{n3} \alpha_3 \Delta PP_{t-i} + \sum_{i=0}^{n4} \alpha_4 \Delta PGR_{t-i} + \beta_1 PE_t + \beta_2 PP_t + \beta_3 PGR_t + \mu_t$$

Keter a lng a ln:

Δ	$:first\ difference$
Kindergarten	: Poverty level
PE	: Economic growth
PP	: Population growth
PGR	: unemployment
α_0	: Constant anta
$\pi 1 - n4$	: The amount of lag in the model
α_1- α_4	: Short-term variables
β_1- β_3	:Long-term Variable
μ_t	: Resid ual(Error *term*)

4. ANALYSIS RESULTS

Stationary Test (Unit Root Test)

Time series analysis represents an important concept in time series analysis. The following table shows the results of time series analysis using the Philip Perront (PP) Root Test.

Table 1
Stationary Test

Variabel	*Unit Root test*	Test Statistic	Critical Value (5%)	Probabilty	Keterangan
Tingkat Kemiskinan (TK)	Level	-0.528601	-2.960411	0.8723	Tidak Stasioner
	1st *Difference*	-5.519245	-2.957110	0.0001	Stasioner
Pertumbuhan Ekonomi (PE)	Level	-4.260944	-2.954021	0.0021	Stasioner
	1st *Difference*	-7.235341	-2.957110	0.0000	Stasioner

Pertumbuhan Penduduk(PP)	Level	-0.571420	-2.963972	0.8626	Tidak Stasioner
	1st Difference	-3.553362	-2.957110	0.0128	Stasioner
Pengangguran (PGR)	Level	-1.378802	-2.954021	0.5806	Tidak Stasioner
	1st Difference	-5.100872	-2.957110	0.0002	Stasioner

Source: Processed Data (2026)

As shown by table 1 in the Philip Perront (PP) Multi-Root Test. The variables of Poverty Level, Economic Growth, and Growth in Leadership were the four variables in this study. The static variable was at the first level, with a probability value of 0.05 (Prob < 0.05). This indicates that the initial variable was tested further.

Optimum Lag Determination Results

In order to further validate the ALRDL model's temporal dynamics, determining the optimal lag is crucial. The optimal lag increases the model's accuracy and produces more accurate estimates of the parameter. The optimal lag results from this study show the opposite effect.:

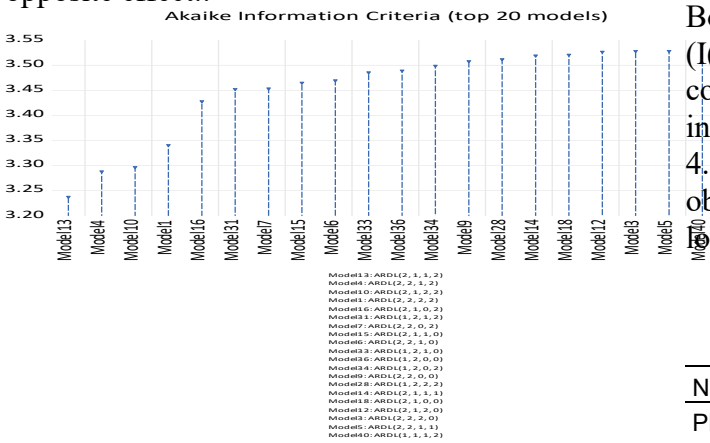

Figure 6 Lag Optimum

Source: Processed Data (2026)

Based on the figure above, the criteria for the ALkalike Informalization Criterion (ALIC), Schwalz Criterion (SC), and Halnnaln-Quinn Criterion (HQC) models are based on the 2.1.1.2 (alternative selection).

Cointegration Test (Bound Test)

The cointegration test is conducted to examine the relationship between independent and dependent variables in the short and long term, as well as imbalance. In order to test cointegration, this study uses the ulji boulnd test, which means comparing the value of F-statistics which is greater than the value of I(0) and I(1) between 10% and 5%. This shows the value of cointegration. The following ulji boulnd test values are:

Table 2
Kointegrasi and Bound test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Finite Sample: n=30	
F-statistic	13.53514	10%	2.676	3.586
K	3	5%	3.272	4.306
		1%	4.614	5.966

Source: Processed Data (2026)

Based on the 2-level F-statistics is greater than the I(0) and I(1) levels, in this model there is a cointegration of the variables in the tested model, so that it can be seen that the cointegration test by using the Boulnd test shows that the cointegration occurs, in the maximum F-statistics value of 13.53514 from I(0) Boulnd, in the maximum F-statistics > I(0) Boulnd back to the 10% confidence interval (I(0) = 2.676 in I(1) = 3.586, then the 10% confidence interval 5% reliability (I(0) = 3.272 in I(1) = 4.306 and in 1% reliability (I(0) = 4.614 in I(1) = 5.966. The results of the obtained values, are the balance of the short and long paths of the variables.

Table 3
Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
PE does not Granger Cause TK	33	0.02793	0.8684
TK does not Granger Cause PE		0.00155	0.9689
PP does not Granger Cause TK	33	4.75188	0.0372
TK does not Granger Cause PP		0.06420	0.8017
PGR does not Granger Cause TK	33	0.04850	0.8272
TK does not Granger Cause PGR		10.2892	0.0032
PP does not Granger Cause PE	33	0.01841	0.8930
PE does not Granger Cause PP		6.30487	0.0177
PGR does not Granger Cause PE	33	0.13424	0.7166
PE does not Granger Cause PGR		1.39842	0.2463
PGR does not Granger Cause PP	33	0.68208	0.4154
PP does not Granger Cause PGR		4.90626	0.0345

Source: Processed Data (2026)

There is a relationship between population growth and poverty rates, as the Prob is 0.037 <0.05, but there is no reciprocal relationship between population growth and poverty rates. Unemployment is related to poverty rates, as the Prob is 0.003, indicating a

relationship between poverty and unemployment. Population growth is related to economic growth, as the Prob is 0.018 <0.05, but there is no relationship between the other variables, and in this case, there is no reciprocal relationship between the dependent variables.

Normality Test

The normality test determines whether the residuals obtained have a normal distribution. The Jaque-Bera value is used to assess the distribution of the residuals. The results of this study's normality test are as follows:

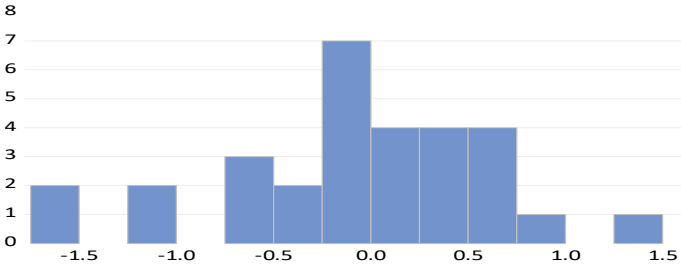

Figure 7. Normality Test

Source: Processed Data (2026)

The results of the 7-digital regression analysis concluded that the normality test using the Jaque-Bera method was 0.122 compared to the χ^2 table of 7.815. This shows that 0.122 <7.815 means that the residuals in this model are normally distributed, as indicated by the Jaque-Bera probability value of 0.9408 > 0.05.

Autocorrelation Test

The autocorrelation test is a regression analysis that sees how the independent variables influence the dependent variables, so there is no autocorrelation seen in this section..

Table 4

Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test: Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	0.891868	Prob. F(2,16)	0.4293
Obs*R-squared	3.109347	Prob. Chi-Square(2)	0.2113

Source: Processed Data (2026)

Based on the test results, the ObsR-squared statistic is 3.109347, whereas the critical Chi-square value at the 5% significance level with 2 degrees of freedom is 5.992. Because the ObsR-squared value is less than the critical Chi-square value (3.109347 < 5.992), the null hypothesis of no autocorrelation cannot be rejected. Therefore, it can be concluded that the model is free from autocorrelation problems. This finding is also confirmed by the Prob. Chi-Square value of 0.2113, which exceeds the 0.05 significance level.

Heteroscedasticity Test

The results of the heteroscedasticity test are used to determine the variances in the regression model and the residuals from one variable to another. The results of this test, which support the White test method, are presented in the following table:

Table 5

Heteroskedastisitas

Heteroskedasticity Test: White Null hypothesis: Homoskedasticity			
F-statistic	0.809179	Prob. F(12,18)	0.6392
Obs*R-squared	10.86298	Prob. Chi-Square(12)	0.5407
Scaled explained SS	4.082894	Prob. Chi-Square(12)	0.9819

Source: Processed Data (2026)

The ObsR-squared statistic is 10.863, whereas the critical Chi-square value at the 5% significance level with 12 degrees of freedom is 21.026. Because the ObsR-squared value is lower than the critical Chi-square value (10.863 < 21.026), the null hypothesis of homoskedasticity is accepted. Therefore, the model is free from heteroskedasticity problems and can be considered reliable.

Short-Term Testing

Table 6

Short-Term ARDL Estimation Results

ECM Regression

Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TK(-1))	-0.377917	0.091287	-4.139878	0.0004
D(PE)	-0.517122	0.048819	-10.59272	0.0000
D(PP)	20.39559	3.949148	5.164554	0.0000
D(PGR)	1.057500	0.326858	3.235353	0.0038
D(PGR(-1))	1.154894	0.329993	3.499756	0.0020
CointEq(-1)*	-0.821706	0.091881	-8.943175	0.0000

Source: Processed Data (2026)

The short-run estimation results using the ARDL model, as presented in Table 4.6 above, can be formulated as follows:

$$\Delta TK_t = -0.378\Delta TK_{-1} - 0.517\Delta PE_t + 20.396\Delta PP_t + 1.058\Delta PGR_t + 1.155\Delta PGR_{-1} - 0.822\Delta ECT_{t-1} \quad (4.1)$$

The general interpretation of the short-term model is as follows:

The CointEq(-1)/ECT(-1) value is -0.822 and is significant at the 1% level, indicating that short-term and long-term cointegration occurs in this model. Furthermore, the CointEq(-1) value of -0.822 is used to assess the speed of adjustment in response to changes. The ECT or CointEq(-1) value is valid if significant at the 5% level. The CointEq(-1)/ECT(-1) value of -0.822 means that 82.2% of the short-term imbalance will be adjusted to return to long-term equilibrium within one period. The remaining unadjusted imbalance is calculated as: 100% - 82.2% = 17.8%, meaning that 17.8% will be adjusted in the next period. The time required to restore the imbalance is 2 periods/year and 4 months.

The Poverty Rate Coefficient (-1) = -0.378, negative and significant at a 1% scale. This indicates that the increase in the poverty rate in the previous period has a negative and significant effect on the increase in the poverty rate in the current period. This means that if the poverty rate decreased in the previous period, the poverty rate in the current period also tends to decrease.

The Economic Growth Coefficient = -0.517, negative and significant at a 1% scale. This figure shows that changes in the variable of economic growth have a negative and significant effect on the rate of poverty. This means that if economic growth increases, the rate of poverty will also decrease.

The Population Growth Coefficient value = 20.396 is positive and significant at the 1% level. This figure shows that changes in the variable of population growth have a positive and significant effect on the rate of poverty. This means that if population growth increases, the rate of poverty will also increase.

The Unemployment Coefficient = 1.058 is positive and significant at a 1% level. This indicates that the unemployment variable has a significant positive effect on the poverty rate. This means that if unemployment increases, the poverty rate will also increase.

The Unemployment Coefficient (-1) = 1.155 is positive and significant at a 1% level. This indicates that the unemployment rate in the previous period has a significant positive effect on the poverty rate in the current period. Also, if unemployment increased in the previous period, the poverty rate in this period will also tend to increase.

Long-Term Results Testing

Based on the results of the Bound Test cointegration test in this study, it is known that there is a long-term equilibrium relationship between economic growth, population growth, and unemployment on the poverty rate. This long-term relationship is then estimated using the ARDL model, as presented in the following table:

Table 7
Long-Term ARDL Estimation Results
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PE	-1.002521	0.152237	-6.585272	0.0000
PP	8.797782	1.035625	8.495144	0.0000
PGR	0.944376	0.190314	4.962199	0.0001
C	3.087702	1.561808	1.977005	0.0607

EC = TK - (-1.0025*PE + 8.7978*PP + 0.9444*TP + 3.0877)

Source: Processed Data (2026)

Based on the table 7 results of long-term testing by using the ALRDL model on the table, the formula for the following equations is formulated:

$$TK = 3.088 - 1.003PE_t + 8.798PP_t + 0.945PGR_t$$

The constant value (C) of 3.088 indicates that the variables of economic growth (PE), population growth (PP), and poverty rate (PGR) are constant (constant) in the long run. The poverty rate (TK) is at a constant level of 3.088 percent and is significant at the 10% level with a probability of 0.0607.

The Economic Growth Coefficient = -1.003 means that if economic growth increases

by 1% in the long run, the poverty rate will decrease by 1.003%, assuming constant population growth and unemployment variables. The variable has a negative and significant effect at the 1% level with a probability of 0.0000, indicating that increased economic growth can reduce the poverty rate in Indonesia.

The Population Growth Coefficient = 8.798 means that if population growth increases by 1% in the long term, the poverty rate will increase by 8.798%, assuming economic growth and unemployment remain constant. This variable has a positive and significant effect at the 1% level with a probability of 0.0000, indicating that increased population growth can increase the poverty rate in Indonesia.

The Unemployment Coefficient = 0.945 means that if unemployment increases by 1% in the long term, the poverty rate will increase by 0.945%, assuming economic growth and population growth remain constant. This variable has a positive and significant effect at the 1% level with a probability of 0.0001, indicating that increased unemployment can increase the poverty rate in Indonesia.

5. CONCLUSION

Conclusion

Based on the analysis conducted in this study, we can conclude the following:

1. The results of this study indicate that in the short term, economic growth (PE) has a significant negative effect on poverty levels. This means that when the economy experiences growth, poverty levels tend to decrease. However, in the short term, economic growth (PE) has a significant negative effect on poverty levels. The higher the ongoing economic growth, the lower the poverty rate in Indonesia. With traffic congestion, the impact of economic growth is significantly greater in the short term when the impact of economic growth is significantly greater in the short term by low-income groups.
2. The results of this study indicate that in the short term, the growth of poverty (PP) has a significant positive effect on the poverty rate. This means that when population growth increases, poverty levels also tend to increase. This condition can occur if population growth is not accompanied by job availability, unemployment, and increased poverty. However, in the short term, population growth (PP) has a significant positive effect on poverty levels. This is partly due to the difficulty of obtaining employment in traditional education, resulting in rising poverty levels.
3. Research findings indicate that the short-term employment rate (PGR) has a significant positive effect on poverty levels. This condition, in turn, makes job opportunities a key factor driving rising poverty in Indonesia. However, in the shortest possible time, the unemployment rate (PGR) has a significant positive effect on the poverty level. This means that the higher the unemployment rate, the greater the poverty rate in Indonesia. The high unemployment rate in the shortest possible time reflects the optimal absorption of labor in the pre-economic situation of providing the most adequate jobs, so that the welfare of the community is increasingly under pressure.

Saran

Based on the analysis and conclusions, the following conclusions are provided by the author:

1. The Indonesian government has a strategic role in reducing poverty by achieving inclusive economic growth, while GDP growth is driven by all levels of government. The government needs to be more serious in controlling population growth by intensifying planned programs, improving education, and implementing regional development. Furthermore, improving the quality of human resources through education and skills training is crucial to ensure that population growth does not become a burden on the economy, but rather allows them to serve as a productive workforce capable of improving public welfare and reducing poverty. Furthermore, the National Excellence

Program (PGR) needs to be implemented through the creation of productive jobs, job training programs aligned with industrial needs, and the expansion of the formal sector. This comprehensive approach will ultimately reduce poverty, narrow social disparities, and strengthen the foundations for sustainable economic growth. 2. The results of this study are expected to serve as a consideration in developing business activities that are not solely profit-oriented but also capable of providing social impact, particularly in creating employment opportunities. Business expansion and investment in productive sectors are expected to optimally absorb the workforce, thereby helping to reduce unemployment and indirectly contributing to poverty reduction.

2. It is recommended that this research be expanded by adding other relevant variables, such as education or income inequality, to provide a more comprehensive analysis. Furthermore, the use of different analytical methods or more recent data could also be used to obtain more in-depth results and strengthen the findings of previous studies.

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