JURNAL ECONOMINA
e-ISSN: 2963-1181
Volume 5, Nomor 5, Mei 2026
Homepage: ejournal.45mataram.ac.id/index.php/economina

Analysis Of Poverty Dynamics In West Nusa Tenggara Province: An Error Correction Model (ECM) Approach

Firmansyah[1*], Iwan Harsono[2], Prayitno Basuki [3]
[1*,2,3]Universitas Mataram , Mataram, Indonesia

*Corresponding Author: firmansyahm572@gmail.com, iwanharsono@unram.ac.id, prayitnobasuki@unram.ac.id

Article History
Received: 01-05-2026
Revised: 04-05-2026
Published: 30-05-2026

ABSTRACT

This study aims to analyze the effects of Gross Regional Domestic Product (GRDP), the Open Unemployment Rate (OUR), inflation, and the Human Development Index (HDI) on poverty rates in West Nusa Tenggara Province in both the long and short term. This study employs an explanatory quantitative approach using annual secondary data from 2000 to 2025 obtained from the Central Statistics Agency (BPS) of West Nusa Tenggara Province. The analysis method used is the Error Correction Model (ECM) to examine the long-run equilibrium relationship and short-run adjustment dynamics among the variables. The results of the study indicate that in the long run, GRDP has a negative and significant effect on poverty, while the unemployment rate has a positive and significant effect; the HDI, however, has no significant effect. Inflation also has no significant effect on poverty. In the short run, none of the variables (GRDP, unemployment rate, inflation, and HDI) have a significant effect on poverty. Simultaneously, the independent variables have a significant effect on poverty in the long run, but not in the short run. Additionally, the Error Correction Term (ECT) results show a negative but insignificant value, indicating that the adjustment process toward long-run equilibrium has not yet proceeded optimally in the short run. These findings suggest that poverty dynamics in West Nusa Tenggara Province are more influenced by long-term structural factors than by short-term fluctuations. Therefore, poverty alleviation policies should focus on promoting inclusive economic growth, job creation, price stability, and the sustainable improvement of human development quality.

.

Keywords: Poverty, Gross Regional Domestic Product, Open Unemployment Rate,

Inflation, Human Development Index, Error Correction Model.

INTRODUCTION

Poverty is a perennial issue that continues to pose a major challenge to Indonesia's economic development. This issue is multidimensional, encompassing limited income, education, access to health services, and restricted economic opportunities (Todaro & Smith, 2020). In West Nusa Tenggara (NTB) Province, structural poverty remains a major issue despite positive trends in economic growth. This situation indicates that the benefits of development have not yet been fully inclusive and are still dominated by high-income groups, resulting in persistent disparities in welfare across regions (Alim & Harsono, 2025).

Economic development in NTB exhibits dynamics that do not always align with a decline in poverty rates. The Regional Gross Domestic Product (RGDP) at constant prices (ADHK) is used to measure the real capacity of the regional economy to produce goods and services without being influenced by inflation (Badan Pusat Statistik, 2025). Although NTB's RDP at constant prices has increased year over year, the RDP structure remains dominated by the mining and quarrying sector, which contributes significantly to output but does not absorb a large number of workers. Conversely, the majority of the poor work in the agriculture, fisheries, and small business sectors, which make a relatively small contribution to the GRDP. This underscores that an increase in economic output does not automatically improve the well-being of low-income communities (Mankiw, 2021).

In addition to economic growth, unemployment is closely linked to poverty levels. High unemployment reduces household purchasing power, increases financial vulnerability, and hinders the accumulation of human capital (Okoye et al., 2021). The mismatch between workers' skills and industry needs further exacerbates this situation. Therefore, the creation of decent jobs, increased labor productivity, and the strengthening of labor institutions are key to sustainably reducing poverty (Elamin, 2025). Unemployment in local areas is not always directly influenced by macroeconomic variables such as population growth, regional GDP, and inflation, as under certain conditions these factors do not show a significant impact on unemployment rates in specific regions. This indicates that the dynamics of unemployment at the local level are complex and influenced by various other factors beyond the primary economic variables (Hidayat et al., 2023).

Inflation also plays a significant role in influencing poverty rates. Rising prices of basic goods reduce the purchasing power of the poor, whose income is largely allocated to basic needs, so inflation functions as the "indirect tax" that most heavily burdens low-income groups (Mankiw, 2021). Research indicates that food inflation has the strongest impact on rising poverty in developing countries because household expenditure is dominated by consumption

of basic necessities (Mohamed & Abdi, 2024). Therefore, stabilizing food prices and strengthening supply chains are critical elements in safeguarding the well-being of the poor.

The Human Development Index (HDI) also influences poverty levels because it reflects the quality of education, health, and living standards. A low HDI limits people's ability to enter the productive labor market, so individuals with low levels of education tend to be trapped in low-paying and unstable jobs. Similarly, poor health reduces labor productivity and increases household expenditures (United Nations Development Programme, 2024). Thus, improving the HDI is a key strategy for reducing structural poverty by enhancing the quality of human capital (Harsono et al., 2024).

Various previous studies have shown mixed results regarding the impact of macroeconomic variables on poverty. Faisal & Ichsan (2020) found that economic growth does not have a significant effect on poverty in Indonesia, while unemployment has a positive effect in the short term and inflation has a causal relationship with poverty. Different results were shown by Khoirudin & Nasir (2022) in Yogyakarta, who stated that economic growth reduces poverty, whereas inflation and unemployment do not have a significant effect. Wiguna & Dewi (2021) in Bali confirmed that unemployment has a significant effect on poverty, but inflation does not. These findings indicate that the impact of economic variables on poverty is heavily influenced by the regional economic structure.

Additionally, Hasibuan (2023) study shows that inflation has a significant negative effect on poverty, while the Human Development Index (HDI) has a negative effect on poverty and economic growth is not significant. Kasim et al. (2021) in Manado found that inflation actually has a significant negative effect on poverty, whereas unemployment and government spending do not have a significant effect. Meanwhile, Miar (2025) emphasizes that economic growth and education do not automatically improve social welfare or address unemployment and inflation; therefore, a more holistic development approach is required.

These differing results further underscore that the direction and strength of macroeconomic variables' influence on poverty are inconsistent across regions. Therefore, an in-depth analysis of poverty dynamics in NTB throughout the 2000–2025 period is crucial for understanding the economic mechanisms shaping poverty fluctuations in the region.

Research Question

Based on the background discussion, the research question in this study is: Do GRDP, the unemployment rate, inflation, and the HDI influence poverty rates in West Nusa Tenggara Province during the 2000–2025 period, both partially and simultaneously, in the short and long term, using the Error Correction Model (ECM) approach?

Research Objectives

This study aims to analyze the influence of GRDP, unemployment rate, inflation, and HDI on poverty rates in West Nusa Tenggara Province during the 2000–2025 period, both

partially and simultaneously in the short and long term, using the Error Correction Model (ECM) approach.

Conceptual Framework

In formulating logical hypotheses, this study is structured based on the following flow and conceptual framework:

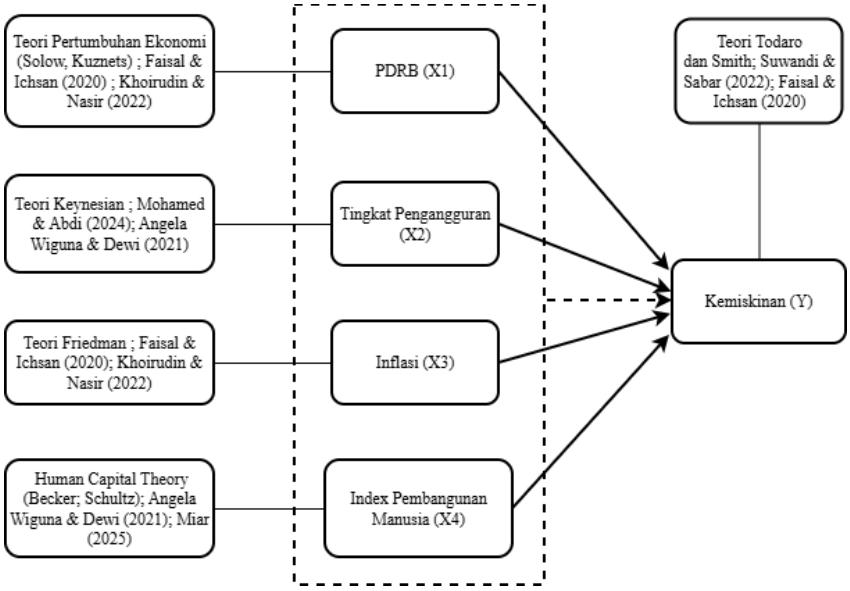

Figure 1. Conceptual Framework

RESEARCH METHODOLOGY

Type of Research

This study is a quantitative, explanatory study aimed at empirically explaining the cause-and-effect relationship between variables. A quantitative approach was chosen because this study uses numerical data analyzed using statistical methods, resulting in objective, measurable, and testable findings based on time series data (Sugiyono, 2022; Gujarati & Porter, 2021). An explanatory research design was chosen because it not only describes the conditions of the variables but also explains the relationships among them within the context of regional development. Thus, this study is expected to provide an empirical understanding of the extent to which economic and social dynamics influence poverty levels in West Nusa Tenggara Province.

Operational Definitions of Variables

Dependent Variable (Y)

The dependent variable (Y) in this study is the poverty rate in West Nusa Tenggara Province (NTB), measured using the percentage of the population with an average monthly per capita expenditure below the poverty line. This indicator reflects households' inability to meet basic needs—both food and non-food—and thus serves as a crucial measure for assessing

community well-being (Todaro & Smith, 2020). The data used are annual data for the 2000–2025 period, expressed in percentages, as established by the Central Statistics Agency (2025). The poverty rate was selected as the dependent variable because it directly illustrates the socio-economic conditions of the NTB community and serves as a key indicator of the success of regional development in reducing the number of people living in poverty.

Independent variable (X)

The first independent variable is the Regional Gross Domestic Product (RGDP) at constant prices (ADHK), which reflects the total value of goods and services produced by a region using prices from a specific base year, thereby depicting real economic growth unaffected by inflation. The data used are annual data for the 2000–2025 period in West Nusa Tenggara Province. Because there is a difference in the base-year constant prices between 2000 and 2010, the 2000 base-year GRDP data for the 2000–2009 period was adjusted to 2010 base-year constant prices using the linking-year method, thereby yielding a consistent GRDP time series. The unit of measurement is rupiah per year (Badan Pusat Statistik, 2025).

The second independent variable is the unemployment rate, measured as the percentage of the open unemployment rate relative to the total labor force. This indicator reflects the labor market's inability to absorb the labor force optimally. The data used are annual data for the 2000–2025 period in West Nusa Tenggara Province, expressed in percentages.

The third independent variable is inflation, measured as the percentage change in the annual inflation rate—that is, the general and sustained increase in the prices of goods and services. The data used are annual data for the 2000–2025 period in West Nusa Tenggara Province, expressed in percentages. Inflation is a critical indicator because it directly impacts household purchasing power.

The fourth independent variable is the Human Development Index (HDI), a composite indicator encompassing health, education, and decent living standards. The data used are annual data for the 2000–2025 period in West Nusa Tenggara Province, expressed as an index on a scale of 0–100. The HDI is used to describe the quality of human resources that play a role in reducing structural poverty.

Data Types and Sources

This study is a quantitative study; therefore, the data used are quantitative in nature, specifically time-series data. Based on their source, the data in this study are secondary data derived from documents or archives of official reports that can be used to support the completion of this research. To obtain secondary data, the author collected data using the documentation technique, where data collection was conducted by studying data found in the archives and economic reports of West Nusa Tenggara Province. Additionally, this study also references relevant data sourced from Bank Indonesia and the Central Statistics Agency (BPS) from 2000 to 2025, which are closely related to the research problem and objectives.

Data Analysis Method

The collected data was then analyzed using the Error Correction Model (ECM), an econometric method used to analyze time series data exhibiting cointegration, thereby explaining both short-term dynamics and long-term equilibrium among variables. This model was chosen because it is more accurate than ordinary linear regression, as it avoids spurious regression in cointegrated, non-stationary data. ECM also allows researchers to understand the adjustment process from short-term imbalances toward long-term equilibrium through the error correction term (ECT) (Engle & Granger, 1987; Gujarati & Porter, 2021).

In this study, data processing was conducted using EViews software with a systematic analysis process. First, a stationarity test was conducted to ensure data stability. Second, a cointegration test was used to identify long-term relationships among variables. Subsequently, ECM estimation was performed by incorporating the error correction term (ECT) to adjust for short-term imbalances, utilizing t-statistics, F-statistics, and the coefficient of determination (R^2). These steps allow the model to explain the influence of GRDP, unemployment rate, inflation, and HDI on poverty in West Nusa Tenggara Province simultaneously, both in the short and long term, making the analysis results more comprehensive and consistent with the characteristics of the data used.

RESULTS AND DISCUSSION

Stationarity Test

The results of the stationary test in this study are shown in the following table:

Table 1. Stationarity Tests by Level

Variabel	ADF Statistik	*Critical Value 5%*	Prob	Ket
Kemiskinan	-1.132	-3.020	0.681	Tidak Stasioner
PDRB	-0.943	-2.986	0.757	Tidak Stasioner
TPT	-1.205	-2.986	0.655	Tidak Stasioner
INF	-1.132	-2.998	0.684	Tidak Stasioner
IPM	-1.134	-2.986	0.685	Tidak Stasioner

Source: Eviews 13 output.

Based on the results of the stationarity test at the 5% significance level, all variables—namely Poverty, GRDP, TPT, Inflation (INF), and HDI—yielded probability values greater than the alpha level of 0.05, specifically 0.681, 0.757, 0.655, 0.684, and 0.685, respectively. Furthermore, the t-statistic values for all variables were also smaller than the critical value at the 5 percent significance level. This indicates that, at the original level, none of the variables were stationary. Therefore, a stationarity test on the first difference is required to ensure data stability before further analysis. The results of the first-difference stationarity test in this study are presented in the following table:

Table 2. Stationarity Test for First Differences

Variabel	ADF Statistik	*Critical Value 5%*	Prob	Ket
Kemiskinan	-4.712	-2.991	0.001	Stasioner
PDRB	-4.055	-2.991	0.004	Stasioner
TPT	-4.904	-2.998	0.000	Stasioner
INF	-9.392	-2.998	0.000	Stasioner
IPM	-4.620	-2.991	0.000	Stasioner

Source: Eviews 13 output.

Based on the results of the stationarity test at the first-difference level, all variables—namely Poverty, GRDP, TPT, Inflation (INF), and HDI—exhibited probability values less than 0.05, specifically 0.001, 0.004, 0.000, 0.000, and 0.000, respectively. Furthermore, the ADF statistics for all variables are smaller (more negative) than the critical value at the 5% significance level. This indicates that all variables are stationary at the first difference, meaning the data meet the stability requirements for further analysis using time series regression models or other econometric models. This condition is crucial to prevent biased and invalid estimation results caused by non-stationary data at the original level. Therefore, it can be concluded that all variables are stationary at the first difference, so the ECM estimation is tested using first-difference data.

Cointegration Test

The results of the cointegration test in this study are presented in the following table:

Table 3. Johansen Trace Statistic Cointegration Test

Hypothesized No. of CE(s)	*Eigen Value*	*Trace Statistic*	*0.05 Critical Value*	*Prob.*
None *	0.750711	75.79308	69.81889	0.0154
At most 1	0.593592	42.45368	47.85613	0.1464
At most 2	0.431849	20.84412	29.79707	0.3674
At most 3	0.219646	7.275281	15.49471	0.5458
At most 4	0.053637	1.323106	3.841466	0.2500

Source: Eviews 13 output.

Table 1. Johansen *Max-Eigen Cointegration Test*

Hypothesized No. of CE(s)	*Eigen Value*	*Max-Eigen Statistic*	*0.05 Critical Value*	*Prob.*
None *	0.750711	33.33940	29.87680	0.0178
At most 1	0.593592	21.60956	27.58434	0.2411
At most 2	0.431849	13.56884	21.13162	0.4014
At most 3	0.219646	5.952175	14.26460	0.6194
At most 4	0.053637	1.323106	3.841466	0.2500

Source: Eviews 13 output.

Based on the results of the Johansen cointegration test using both the Trace Statistic and Max-Eigen Statistic methods, a consistent conclusion was reached that there is one significant cointegration relationship among the variables. This is indicated by a Trace Statistic value of 75.79308, which is greater than the critical value of 69.81889 at a 5% significance level with a probability of 0.0154, as well as a Max-Eigen Statistic value of 33.33940, which is greater than the critical value of 29.87680 with a probability of 0.0178. For the hypotheses "At most 1"

through "At most 4," in both the Trace and Max-Eigen tests, the statistical values are smaller than their respective critical values and the probabilities are greater than 0.05; thus, no additional significant cointegration relationships were found. Thus, it can be concluded that the model has one cointegration equation, indicating the existence of long-run equilibrium among the variables even though the data are non-stationary at the initial level.

Error Correction Model (ECM) Estimation

Long-Run

Table 5. Results of Long-Run ECM Estimation

Variabel	*Coefficient*	*Std. Error*	*t-statistic*	Prob.***
C	88.79327	8.848102	10.03529	0.0000***
LOGPDRB	-17.71175	3.895942	-4.546205	0.0002***
TPT	0.536849	0.265115	2.024969	0.0558*
INF	-0.047916	0.087234	-0.549276	0.5886
IPM	0.070459	0.183834	0.383275	0.7054
R-squared				0.9391
Adjusted R-squared				0.9275
F-statistic			80.95903	0.0000***

*Noted:**

*** = *significant at the 1% significance level (α = 0.01)*

** = *significant at the 5% significance level (α = 0.05)*

* = *significant at the 10% significance level (α = 0.10)*

Source: Eviews 13 output.

Long-run equation:

$$POVERTY_t = \beta_0 + \beta_1 PDRB_t + \beta_2 TPT_t + \beta_3 INF_t + \beta_4 IPM_t + e_t$$

$$POVERTY_t = 88.7932 - 17.7117 + 0.5368 - 0.0479 - 0.0704 + e_t$$

Partial Significance Test (t-Test)

The constant term (C) has a value of 88.7932, with a t-statistic of 10.0352 and a probability of 0.0000, indicating that the constant term is statistically significant. This suggests that there are other factors outside the model that also influence poverty levels in West Nusa Tenggara Province.

The LOG_GRDP variable has a coefficient of –17.7117 with a t-statistic of –4.5462 and a probability of 0.0002, indicating a negative and statistically significant effect on poverty in the long term. An increase in GRDP can reduce poverty levels through increased economic activity and household income.

The Open Unemployment Rate (TPT) variable has a coefficient of 0.5368 with a t-statistic of 2.0249 and a probability of 0.0558, indicating a positive and significant effect on poverty. An increase in unemployment drives an increase in the number of poor people.

The inflation (INF) variable has a coefficient of –0.0479 with a t-statistic of –0.5492 and a probability of 0.5886, indicating no significant long-term effect on poverty.

The HDI variable has a coefficient of –0.0704 with a t-statistic of –0.3832 and a probability of 0.7054. This indicates that the HDI does not have a significant effect on the

poverty rate in the long run. Thus, an increase in the HDI has not yet been able to produce a tangible impact on reducing poverty in West Nusa Tenggara Province during the study period.

Simultaneous Significance Test (F-Test)

Based on the results of the long-term ECM estimation, the F-statistic value of 80.9590 with a probability of 0.0000 (< 0.05) indicates that GRDP, the open unemployment rate, inflation, and the HDI simultaneously have a significant effect on poverty levels in West Nusa Tenggara Province. This confirms that poverty is jointly influenced by economic performance, labor market conditions, price stability, and the quality of human development, and thus cannot be explained by a single variable alone.

Coefficient of Determination (R-squared) Test

An R-squared value of 0.9391 indicates that 93.91% of the variation in poverty rates in West Nusa Tenggara Province can be explained by GRDP, open unemployment rate, inflation, and HDI, while 6.09% is influenced by other factors outside the model. The adjusted R-squared value of 0.9275 confirms that the model has a very high explanatory power.

Short Term

Table 6. Short-Term ECM Estimation Results

Variabel	*Coefficient*	*Std. Error*	*t-statistic*	Prob.***
C	-0.606292	0.229403	-2.642907	0.0160**
D(LOGPDRB)	-1.273823	3.647208	-0.349260	0.7307
D(TPT)	0.231805	0.168924	1.372240	0.1860
D(INF)	-0.053247	0.031639	-1.682969	0.1087
D(IPM)	0.029935	0.155120	0.192977	0.8490
ECT(-1)	-0.212132	0.129265	-1.641071	0.1172
R-squared				0.3074
Adjusted R-squared				0.1252
F-statistic			1.687038	0.1860

*Noted:**

*** = *significant at the 1% significance level (α = 0.01)*

** = *significant at the 5% significance level (α = 0.05)*

* = *significant at the 10% significance level (α = 0.10)*

Source: Eviews 13 output.

Short Term equation:

$$\Delta POVERTY_t = \beta_0 + \beta_1 \Delta PDRB_t + \beta_2 \Delta TPT_t + \beta_3 \Delta INF_t + \beta \Delta_4 IPM_t + ECT_t + e_t$$

$$\Delta POVERTY_t = -0.6062 - 1.2738 + 0.2318 - 0.0532 + 0.0299 - 0.2121 + e_t$$

Partial Significance Test (t-Test)

The constant (C) of −0.6062 with a t-statistic of −2.6429 and a probability of 0.0160 indicates that the constant is statistically significant. This negative value indicates a 0.606-point decrease in the poverty rate in the short term due to the influence of other factors outside the model, such as government policies, social conditions, and structural economic factors.

Variable D(LOG_GRDP) has a coefficient of −1.2738 with a t-statistic of −0.3492 and a probability of 0.7307, so it does not have a significant effect on short-term poverty. This

suggests that changes in economic output do not directly impact poverty reduction, as they require a transmission process through job creation and income distribution.

Variable D(TPT) has a coefficient of 0.2318 with a t-statistic of 1.3722 and a probability of 0.1860, so it has no significant effect. However, the positive direction indicates that an increase in unemployment tends to increase poverty.

Variable D(INF) has a coefficient of −0.0532 with a t-statistic of −1.6829 and a probability above 0.05, so it is not significantly significant. The negative direction indicates that controlled inflation tends to reduce poverty.

Variable D(IPM) has a coefficient of 0.0299 with a t-statistic of 0.1929 and a probability of 0.8490, so it has no significant effect in the short term.

The ECT(−1) value of −0.2121 with a probability of 0.1172 indicates that the adjustment mechanism toward long-term equilibrium is not yet significant, although the direction is appropriate (negative).

Simultaneous Significance Test (F-Test)

Based on the results of the short-term ECM estimation, the F-statistic value of 1.6870 with a probability of 0.1860 (>0.05) indicates that, collectively, the variables GRDP, TPT, inflation, and HDI do not have a significant effect on changes in poverty in the short term. This means that the combination of variables in the model has not yet been able to strongly explain changes in poverty. This condition indicates that short-term poverty dynamics are more influenced by other factors outside the model, such as short-term policies, economic shocks, or temporary social conditions.

Coefficient of Determination (R-squared) Test

An R-squared value of 0.3074 indicates that 30.74% of the variation in poverty changes can be explained by the variables in the model, while 69.26% is explained by other factors outside the model. This value indicates that the model's ability to explain short-term poverty is moderate; thus, while the model provides useful information, there are still many other variables at play that have not been included in the analysis.

Classical Assumptions Test

Normality Test

Table 7. Normality Test

Jarque-Bera Test:	
F-statistic	1.3404
Probability	0.5116

Source: Eviews 13 output.

Based on Table 7, the normality test using the Jarque-Bera test yielded a p-value of 0.5116, which is greater than the 5% significance level (0.05). This indicates that the residuals in the research model are normally distributed.

Multicollinearity Test

Table 8. Multicollinearity Test

Variabel	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.052626	2.115943	NA
D(LOGPDRB)	13.30212	1.914712	1.216599
D(TPT)	0.028535	1.290405	1.287582
D(INF)	0.001001	1.256676	1.255953
D(IPM)	0.024062	1.853067	1.235741
ECT(-1)	0.016709	1.210849	1.210787

Source: Eviews 13 output.

Based on the test results in Table 8, all independent variables have VIF values below 10, for both uncentered and centered VIF. This indicates that there are no multicollinearity issues in the model, meaning that the regression coefficient estimates are stable and can be reliably interpreted.

Heteroscedasticity Test

Table 9. Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.9013	**Prob. F(4,114)**	0.0412
Obs*R-squared	10.8238	**Prob. Chi-Square(4)**	0.0550
Scaled explained SS	3.5225	**Prob. Chi-Square(4)**	0.6200

Source: Eviews 13 output.

Based on the Breusch-Pagan-Godfrey test (Table 4.9), the probability values for Obs*R-squared (0.0550) and Scaled explained SS (0.6200) are greater than 0.05, while the F-statistic (0.0412) is slightly below 0.05. In general, these results indicate that there is no consistent evidence of heteroscedasticity, so the model can be considered to satisfy the assumption of homoscedasticity.

Autocorrelation Test

Table 10. Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.2226	**Prob. F(2,111)**	0.8027
Obs*R-squared	0.6380	**Prob. Chi-Square(2)**	0.7268

Source: Eviews 13 output.

Based on the Breusch-Godfrey Serial Correlation LM test (Table 4.10), the F-statistic probability value (0.2226) and the observed R-squared (0.6380) are both greater than 0.05. This indicates that there is no autocorrelation issue in the model, meaning that the classical assumptions are met and the estimation results are reliable.

Discussion

The Effect of Regional Gross Domestic Product on Poverty in West Nusa Tenggara Province

Based on the ECM estimation results, the LOG_PDRB variable has a long-run coefficient of –17.7117 with a t-statistic of –4.5462 and a p-value of 0.0002 (< 0.05), indicating a negative and significant effect on the poverty rate in West Nusa Tenggara Province. These results indicate that an increase in GRDP can reduce poverty by raising household income and expanding employment opportunities. This effect occurs primarily because West Nusa Tenggara's economic structure remains dominated by labor-intensive sectors such as agriculture, tourism, trade, and MSMEs, meaning that output growth is more rapidly absorbed into the labor force and household income.

Additionally, the development of the tourism sector in areas like Lombok and Sumbawa creates a multiplier effect on other sectors such as transportation, accommodation, and trade, further reinforcing poverty reduction. Theoretically, these findings align with Todaro & Smith (2020) and Kuznets (1955), who state that long-term economic growth increases factor income and reduces poverty following structural transformation. These results are also consistent with the research by Khoirudin & Nasir (2022) and Soh et al. (2025), which confirms that economic growth plays a role in reducing poverty in the long term.

Conversely, in the short term, the variable D(LOG_GRDP) does not have a significant effect on poverty, with a coefficient of –1.2738, a t-statistic of –0.3492, and a probability of 0.7307 (> 0.05). This indicates that changes in GRDP do not immediately impact poverty reduction because the economic transmission process takes time. Short-term fluctuations are also influenced by seasonal factors, particularly in the agriculture and tourism sectors, as well as the dominance of the informal labor force with irregular incomes, so that increased output does not immediately improve the welfare of poor households.

These findings are consistent with Suwandi & Sabar (2022) and Faisal & Ichsan (2020), who state that economic growth does not always have a significant impact on poverty in the short term. The difference in results between the short and long term indicates that the impact of GRDP on poverty is gradual, with benefits only becoming apparent after accumulated growth and the expansion of a more equitable economic sector.

The Effect of the Unemployment Rate on Poverty in West Nusa Tenggara Province

Based on the long-term ECM results, the Open Unemployment Rate (OUR) variable has a coefficient of 0.5368 with a t-statistic of 2.0249 and a probability of 0.0558 (< 0.10), indicating a positive and significant effect on poverty levels in West Nusa Tenggara Province. This indicates that a sustained rise in unemployment reduces household income and increases the number of people living in poverty.

This situation arises because West Nusa Tenggara's labor market structure remains dominated by the agricultural sector, small-scale trade, tourism, and informal, irregular employment. When unemployment rises—particularly among the productive workforce—

households lose their primary income source without a guaranteed alternative, leading to an immediate decline in consumption and purchasing power. In rural areas, dependence on the agricultural sector also means that hidden unemployment during non-productive seasons further worsens community income conditions.

Theoretically, Sukirno (2022) and Mankiw (2021) explain that unemployment reduces national income and economic efficiency, thereby increasing poverty. These findings are also consistent with the research by Khoirudin & Nasir (2022) and Wiguna & Dewi (2021), which found a positive and significant effect of unemployment on poverty at the regional level.

In the short term, the variable D(TPT) has a coefficient of 0.2318 with a t-statistic of 1.3722 and a probability of 0.1860 (> 0.05), indicating no significant effect on short-term poverty. However, the positive direction suggests that an increase in unemployment tends to be followed by an increase in poverty.

Theoretically, unemployment can reduce income and increase poverty; however, in the context of NTB, which is dominated by the informal sector, the impact is not direct because people can still switch to other jobs or make household economic adjustments.

These results align with the studies by Khoirudin & Nasir (2022), Suwandi & Sabar (2022), and Kasim et al. (2021), which found that unemployment has a positive but non-significant effect on poverty.

Thus, the effect of unemployment on poverty in NTB tends to be gradual and more apparent in the long term because it is related to structural problems in the labor market.

The Effect of Inflation on Poverty in West Nusa Tenggara Province

Based on the results of the long-term ECM, the Inflation (INF) variable has a coefficient of –0.0479 with a t-statistic of –0.5492 and a probability of 0.5886 (> 0.05), indicating that it does not have a significant effect on poverty levels in West Nusa Tenggara Province. This indicates that in the long run, changes in inflation tend to be anticipated by households through adjustments in consumption patterns, goods substitution, and income adjustments, particularly in the informal sector, which dominates in West Nusa Tenggara. Additionally, government interventions such as food subsidies, social assistance, and price stabilization help maintain purchasing power, thereby rendering the impact of inflation on poverty insignificant.

Theoretically, Keynes (1936) and Mankiw (2021) explain that in the long run, moderate inflation does not necessarily reduce welfare because nominal income adjusts to prices, thereby keeping purchasing power relatively stable. These findings are also consistent with the research by Khoirudin & Nasir (2022) and Wiguna & Dewi (2021), which show that inflation does not have a significant effect on poverty in the long run because structural factors such as income and employment opportunities are more dominant.

In the short term, the D(INF) variable has a coefficient of −0.0532 with a t-statistic of −1.6829 and a probability of 0.1087 (>0.05), indicating it does not significantly affect short-

term poverty. However, the negative direction suggests that a decline in inflation tends to be followed by a decline in poverty. This lack of significance is influenced by NTB's economic structure, which is dominated by the informal and primary sectors, so the impact of inflation is not immediately felt. Additionally, the public adjusts their consumption, supported by government policies such as subsidies and social assistance that maintain purchasing power. Theoretically, this aligns with the Keynesian approach, which states that the short-term impact of inflation can be mitigated by price rigidities and adjustments in economic behavior. These results are also consistent with the studies by Wiguna & Dewi (2021), Kasim et al. (2021), and Faisal & Ichsan (2020), which found that inflation has a negative but insignificant effect on poverty.

The distinction between short-term and long-term effects indicates that inflation does not significantly affect poverty in West Nusa Tenggara Province. In the short term, its impact is mitigated by household adjustments, price stabilization policies, and the flexibility of public consumption. In the long term, the impact of inflation weakens further due to economic adjustments and behavioral adaptation. Thus, poverty is more influenced by structural factors such as economic growth, employment opportunities, and human capital quality.

The Impact of the Human Development Index on Poverty in West Nusa Tenggara Province

Based on the results of the long-term ECM, the Human Development Index (HDI) variable has a coefficient of –0.0704 with a t-statistic of –0.3832 and a probability of 0.7054 (> 0.05), indicating it does not have a significant effect on poverty in West Nusa Tenggara Province. This indicates that although the relationship is positive, an increase in the HDI has not yet been able to directly reduce poverty.

This situation is influenced by disparities in human capital quality across regions, the dominance of the informal sector, and limitations in the absorption of productive labor. Although there has been an improvement in education and health, the impact on household income remains limited because the process of transitioning toward more productive employment takes time.

Theoretically, Sen (1999) in the capability approach asserts that enhancing basic human capabilities is the key to poverty reduction, while Todaro & Smith (2020) state that human development enhances long-term productivity and well-being. These results are consistent with the research by Hasibuan (2023), Miar (2025), and Suwandi & Sabar (2022), who found that the HDI does not always have a direct effect on poverty because it is more indirect through other variables.

In the short term, the D(HDI) variable has a coefficient of 0.0299 with a t-statistic of 0.1929 and a probability of 0.8490 (> 0.05), indicating it does not significantly affect changes in poverty. This is because improvements in HDI are structural in nature and require time to impact household income. In NTB, the majority of the workforce remains in the informal sector,

such as farm laborers, fishermen, small traders, and seasonal workers; thus, improvements in education and health have not yet directly increased income. Furthermore, the benefits of improvements in education and health are only felt when the workforce enters a more productive labor market or experiences an increase in job skills. Therefore, the HDI does not have a direct impact on poverty in the short term, but rather through a transition process toward increased economic productivity. These findings align with the research by Wiguna & Dewi (2021), Elamin (2025), and Faisal & Ichsan (2020), which indicates that the quality of human capital influences poverty reduction in the long term; however, its impact is not immediately visible in the short term because it takes time to increase household income.

This discrepancy in results indicates that the Human Development Index (HDI) is a long-term factor in poverty alleviation. In the short term, its impact is not yet visible due to limitations in labor market adjustments; however, in the long term, improvements in human capital will strengthen productivity, increase income, and ultimately reduce poverty levels sustainably.

The Effects of Regional Gross Domestic Product, Unemployment Rate, Inflation, and Human Development Index on Poverty in West Nusa Tenggara Province

Based on the results of the long-term ECM, the variables of Regional Gross Domestic Product (RGDP), Open Unemployment Rate (OUR), Inflation, and the Human Development Index (HDI) simultaneously have a significant effect on poverty levels in West Nusa Tenggara Province, with an F-statistic of 80.9590 and a probability of 0.0000. These results indicate that poverty is a multidimensional phenomenon influenced by economic performance, labor market conditions, price stability, and the quality of human development collectively.

Partially, an increase in GRDP helps reduce poverty by boosting economic activity in the agriculture, tourism, trade, and MSME sectors, which expands employment opportunities and household income. Conversely, the unemployment rate has a positive effect on poverty due to the loss of household income sources, particularly in NTB, where the economy is dominated by the informal sector and daily wage labor. Stable inflation does not exert significant pressure on poverty because purchasing power remains intact, while the Human Development Index (HDI) contributes to reducing poverty through improvements in the quality of education, health, and labor productivity.

These findings align with various studies such as Ayyash et al. (2025), Faisal & Ichsan (2020), Asrari & Wau (2023), and Soh et al. (2025), which affirm that poverty is influenced by a combination of economic growth, employment, price stability, and human capital quality simultaneously in the long term.

In the short term, the ECM results indicate that GRDP, TPT, inflation, and HDI have a positive but insignificant effect on poverty, with an F-statistic of 1.6870 and a probability of 0.1860 (>0.05). This suggests that, taken together, the variables in the model are not yet capable of significantly explaining changes in poverty in West Nusa Tenggara Province.

This situation is influenced by NTB's economic structure, which is dominated by the informal sector and seasonal activities such as agriculture, tourism, and local trade; consequently, the increase in GRDP has not been evenly distributed and has not yet had a direct impact on poverty. Changes in unemployment and inflation affect household conditions more rapidly because they are directly linked to the income and purchasing power of the population, the majority of whom work in the informal sector. Meanwhile, the Human Development Index (HDI) has not yet had a direct impact because improvements in education and health take time to be reflected in income.

Theoretically, this aligns with the Keynesian approach, which states that in the short term, changes in economic variables affect consumption and purchasing power more than structural well-being. From a development perspective, the effects of the HDI and economic growth require time to influence poverty through adjustments in the labor market and income distribution.

These results are also consistent with the research by Faisal & Ichsan (2020), Wiguna & Dewi (2021), and Kasim et al. (2021), which found that economic variables such as economic growth, inflation, unemployment, and the HDI do not always have a significant impact on poverty in the short term.

Thus, short-term changes in poverty in NTB are more influenced by seasonal factors, the informal sector, and price fluctuations, so the impact of macroeconomic variables is not yet statistically significant.

Short-Term Imbalance Correction Mechanism Toward Long-Term Equilibrium (ECT)

The Error Correction Term (ECT(-1)) value of –0.2121 with a t-statistic of –1.6410 and a probability of 0.1172 (>0.05) indicates that ECT is not significant in the short-term model. Although the negative sign indicates a tendency toward adjustment toward long-run equilibrium, statistically, this correction process has not yet been significant.

The coefficient of –0.2121 indicates that approximately 21.21 percent of the long-run imbalance is corrected in one period, but this adjustment mechanism is not yet stable. This is due to the economic characteristics of NTB, which are dominated by the informal sector, the primary sector, and seasonal activities, causing short-term relationships to be volatile and the adjustment process toward long-term equilibrium to proceed slowly.

Theoretically, according to the ECM model (Engle & Granger, 1987), ECT reflects the speed of adjustment toward long-term equilibrium. When it is not significant, it means the correction mechanism is not yet optimal.

These results align with the studies by Faisal & Ichsan (2020), Wiguna & Dewi (2021), and Kasim et al. (2021), which show that the short-term and long-term relationships between economic variables and poverty do not always result in a significant adjustment mechanism.

Thus, although there is a corrective direction toward long-term equilibrium, statistically, this mechanism is not yet significant in West Nusa Tenggara Province due to the influence of structural factors and short-term economic fluctuations.

CONCLUSION AND SUGGESTIONS

Through a series of comprehensive analyses, several key conclusions can be drawn:

The Impact of GRDP on Poverty

GRDP has a significant negative impact on poverty in the long term, as increased economic activity in the agriculture, tourism, trade, and services sectors can boost income and expand employment opportunities. However, in the short term, GRDP does not have a significant effect because its impact is not immediately felt due to the time-consuming process of labor absorption and is still influenced by seasonal factors.

The Effect of the Unemployment Rate on Poverty

In the long term, the unemployment rate has a positive and significant effect on poverty, indicating that rising unemployment reduces household income and increases poverty. In the short term, the unemployment rate does not have a significant impact because some people can still survive through the informal sector.

The Impact of Inflation on Poverty

Inflation does not have a significant impact in either the long or short term. This indicates that price changes do not directly determine poverty due to adjustments in consumption, income, social assistance, and the dominance of the informal sector.

The Impact of the Human Development Index (HDI) on Poverty

The HDI does not have a significant impact in either the long term or the short term. This indicates that improvements in education, health, and living standards do not immediately lead to a reduction in poverty due to limitations in the absorption of productive labor and the time required for these improvements to translate into income.

Simultaneous Effects of Variables on Poverty

In the long term, GRDP, TPT, inflation, and HDI simultaneously have a significant effect on poverty, indicating that poverty is influenced by the combined interaction of economic and social factors. However, in the short term, these variables are not significant when considered simultaneously because poverty is more influenced by seasonal factors, the informal sector, and short-term household conditions.

Corrective Mechanism (ECT)

The ECT value is negative but not significant, indicating a tendency toward long-term equilibrium, but this corrective mechanism has not yet functioned strongly or consistently. This is influenced by NTB's economic structure, which is dominated by the informal sector and seasonal activities, causing the adjustment process to proceed slowly.

Given the limitations of this study, the following recommendations are made for future research:

1. Micro-level analysis using household or individual data to gain a more detailed understanding of the mechanisms through which GRDP, unemployment, inflation, and the HDI influence poverty.
2. Conduct a comparative study across regions by comparing NTB with other provinces to identify differences in the characteristics and effectiveness of poverty determinants.
3. Extending the study period to capture more stable long-term dynamics and structural patterns of poverty.
4. Employing advanced methodological approaches such as ARDL or VECM to strengthen the analysis of short-term and long-term relationships.
5. Including additional variables such as investment, local government spending, and income inequality to make the poverty analysis more comprehensive.
6. A qualitative approach to complement the quantitative results, particularly regarding labor market conditions and the effectiveness of poverty alleviation programs in NTB.

REFERENCES

Alim, S., & Harsono, I. (2025). Pengaruh Pertumbuhan Ekonomi, Pendidikan dan Kesehatan Terhadap Kemiskinan di Provinsi Nusa Tenggara Barat Tahun 2015-2024. *JURNAL SYNTAX IMPERATIF : Jurnal Ilmu Sosial Dan Pendidikan*, *6*(3), 370–377. https://doi.org/10.54543/syntaximperatif.v6i3.701

Asrari, M. Z., & Wau, T. (2023). Makroekonomi, syariah, dan ketimpangan ekonomi di Organization of Islamic Cooperation (OIC): Sebuah kajian empiris. *Jurnal Ekonomi Syariah Teori Dan Terapan*, *10*(3), 203–219. https://doi.org/10.20473/vol10iss20233pp203-219

Ayyash, M., Sek, S. K., & Kole, A. (2025). Income inequality dynamics in ASEAN-5: a panel data approach using CS-ARDL to examine macroeconomic factors. *Discover Sustainability*, *6*(1). https://doi.org/10.1007/s43621-025-01068-1

Badan Pusat Statistik. (2025). *Produk Domestik Regional Bruto Provinsi Nusa Tenggara Barat 2025*.

Elamin, A. A. H. (2025). The Effects of Unemployment on Economic Growth in Saudia Arabia in the period 1995-2023. *Journal of Economics, Finance and Accounting Studies*, 49–60. https://doi.org/10.32996/jefas

Engle, R. F., & Granger, C. W. J. (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, *55*(2), 251. https://doi.org/10.2307/1913236

Faisal, M., & Ichsan. (2020). The Analysis of Economic Growth, Unemployment Rate and Inflation on Poverty Levels in Indonesia (Using the Vector Error Correction Model

(VECM) Method). *Journal Of Maliksussaleh Public Economics*, *3*, 42–50. https://doi.org/http://ojs.unimal.ac.id/index.php/Jompe

Gujarati, D. N., & Porter, D. C. (2021). *Basic Econometrics* (5th ed). McGraw-Hill Education.

Harsono, I., Hatim, F., Sumastuti, E., Thalib, B., & Sya'rani, R. (2024). Poverty statistics of South Sulawesi Province based on Human Development Index and GRDP using panel data. *International Journal on Social Science, Economics and Art*, *13*(4), 234–239.

Hasibuan, L. S. (2023). Analisis pengaruh IPM, inflasi, pertumbuhan ekonomi terhadap pengangguran dan kemiskinan di Indonesia. *Jurnal Penelitian Pendidikan Sosial Humaniora*.

Hidayat, E., Basuki, P., & Fuady, H. (2023). Analysis of Unemployment Rate and Influencing Factors in East Lombok Regency 2009-2018. *Journal of Social and Humanities*, *1*(1), 1–6. https://doi.org/10.59535/jsh.v1i1.7

Kasim, R., Engka, D. S. M., & Dj Siwu, H. (2021). ANALYSIS OF THE EFFECT OF INFLATION, UNEMPLOYMENT AND GOVERNMENT EXPENDITURE ON POVERTY IN MANADO CITY. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *9*(1), 953–963.

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Macmillan.

Khoirudin, R., & Nasir, M. S. (2022). DETERMINAN KEMISKINAN DI PROVINSI DAERAH ISTIMEWA YOGYAKARTA TAHUN 2012-2019. *COSTING:Journal of Economic, Business and Accounting*, *2*, 1407–1422.

Kuznets, S. (1955). Economic Growth and Income Inequality. *The American Economic Review*.

Mankiw, N. G. (2021). *Macroeconomics* (11th ed.). Worth Publishers.

Miar. (2025). Achieving wellbeing through economic growth and the role of social factors in sustainable development. *Discover Sustainability*, *6*(1), 1–23. https://doi.org/10.1007/s43621-025-01947-7

Mohamed, A. A., & Abdi, A. H. (2024). Exploring the dynamics of inflation, unemployment, and economic growth in Somalia: a VECM analysis. *Cogent Economics and Finance*, *12*(1). https://doi.org/10.1080/23322039.2024.2385644

Okoye, P. U., Ngwu, C., & Ohaedeghasi, C. I. (2021). The Tripartite Dynamic Relationship between Poverty, Unemployment and Construction Sector: Empirical Evidence from Nigeria. *Management Dynamics in the Knowledge Economy*, *9*(1), 17–38. https://doi.org/10.2478/mdke-2021-0002

Sen, A. (1999). *Development as Freedom*. Oxford University Press.

Soh, T. M. A. A. T., Zainuddin, M. R. K. V., Mohamad, A. H. H., Arifin, & Azam, A. H. M. (2025). The Role of Financial Development in Poverty and Income Distribution Dynamics in ASEAN Countries: A Panel Cointegration Analysis. *International Journal of Economics and Financial Issues* , *15*(2), 336–343. https://doi.org/10.32479/ijefi.16871

Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (2nd ed.). Alfabeta.

Sukirno, S. (2022). *Makroekonomi Teori Pengantar*. RajaGrafindo Persada.

Suwandi, & Sabar, W. (2022). Do Economic Growth, Income Distribution, and Investment Reduce Poverty Level? *Bulletin of Economic Studies (BEST)*, *2*(2), 87–96. https://doi.org/10.24252/best.v2i2.31479

Todaro, M. P., & Smith, S. C. (2020). *Economic development* (13th ed.). Pearson.

United Nations Development Programme. (2024). *Human Development.*

Wiguna, P. A., & Dewi, N. P. M. D. (2021). Analysis of the Effect of Literacy Rate , Inflation and Open Unemployment Rate on Poverty Levels in Bali Province in 2002 - 2020. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, *5*(8), 1–7.