

## Analysis of the Effect of Poverty Level, Human Development Index, and Open Unemployment Rate on Economic Growth in East Nusa Tenggara Province

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### ABSTRACT

This study aims to analyze the effect of poverty rate, Human Development Index (HDI), and Open Unemployment Rate (TPT) on economic growth in East Nusa Tenggara Province during the period 2009-2023. The research method used is multiple linear regression analysis to identify the relationship and significance between variables. The results of the study indicate that the poverty rate has a positive effect on economic growth. Meanwhile, the Human Development Index does not show a significant effect on economic growth. The Open Unemployment Rate was found to have a negative effect on economic growth. This study provides important implications for policy making in an effort to increase economic growth in East Nusa Tenggara Province through integrated handling of poverty and unemployment problems.

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## INTRODUCTION

Economic development is a multidimensional process involving major changes in social structures, societal attitudes, national institutions, as well as the acceleration of economic growth, reduction of inequality, and eradication of poverty (Todaro & Smith, 2011). The goal is to improve people's standard of living in a planned, conscious and sustainable manner in order to achieve better conditions (Noviatamara et al., 2019). This process includes increasing the production of goods and services, creating jobs, and improving infrastructure and public services. Economic growth is one indicator of development success, which measures a country's ability to increase national output beyond population growth (Sutawijaya, 2010).

Economic growth is measured by the ability to produce goods and services that increase over time. The government designs policies and programs to support quality growth and contribute to the welfare of society. However, poverty is a major challenge that affects the level of economic growth, because it is a multidimensional problem that involves social, economic, political, and cultural aspects (Ketut Sudibia et al., 2013). The Human Development Index (HDI) which measures health, education and standard of living is an important parameter in assessing economic development, because a high level of human development affects the ability of society to access and manage sources of economic growth (Lilya & Dewi, 2014).

Open unemployment, which is a condition where the workforce does not have jobs and is looking for work, also has a negative impact on economic growth because it reduces people's purchasing power (Putri et al., 2020). Indonesia, consisting of more than 17,000 islands, faces challenges in equitable development. East Nusa Tenggara (NTT) Province, as part of eastern Indonesia, has unique characteristics with a large development gap compared to the western region. The geographical conditions consisting of many islands make it difficult to distribute resources and equitable development, thus affecting efforts to achieve optimal economic growth in the region.

Based on data from the Central Statistics Agency of East Nusa Tenggara Province, NTT's economic growth in 2023 reached 3.52%, still below the national average of 5.05%, making it the third province with the lowest economic growth. The main sectors contributing to NTT's GRDP are dominated by agriculture, forestry, and fisheries (29.32%), followed by trade (12.52%), and government administration (12.41%). The low growth was due to dependence on the agricultural sector which is vulnerable to climate, minimal investment, and the less than optimal development of the tourism sector compared to NTB province.

The poverty rate in NTT in 2023 reached 19.96%, far above the national average of 9.36%, placing it as the province with the third highest poverty rate after Papua and West Papua. The causal factors include geographical conditions, topography, low rainfall intensity, and barren land that makes agricultural activities difficult. The Human Development Index (HDI) of NTT in 2023 was 68.40%, still below the national average of 74.39% and the nearest province which reached 70%, showing gaps in education, health, and living standards.

The Open Unemployment Rate (TPT) of NTT reached 3.14% in 2023, indicating a high unproductive informal sector and less than optimal absorption of labor. Previous studies have shown mixed results: the poverty rate can have a significant positive effect on economic growth, the HDI shows a significant or insignificant positive effect depending on the research area, and the unemployment rate shows contradictory results from having a significant negative effect to having no effect.

Previous studies on the relationship between development variables have shown mixed results. Research (2021) found a significant positive influence between poverty and economic growth. Related to the Human Development Index, research by Rosyidah et al. (2024) found a significant positive effect on economic growth, whereas Prameswari et al. (2021) did not find any significant influence. Regarding unemployment, (2021) found a significant negative effect, while Nairizi (2023) did not find any significant effect. This inconsistency indicates the need for further research in East Nusa Tenggara Province.

Based on the existing phenomena and the research gap, studies in the East Nusa Tenggara region are important to be conducted in order to reduce the development disparity between western and eastern Indonesia. An in-depth analysis of the determinants of economic growth in East Nusa Tenggara Province is needed, including the problems of high poverty rates, low human development index achievements, and high open unemployment rates, all of which are still below national standards.

This study analyzes the influence of poverty levels, HDI, and TPT on economic growth in NTT using time series data from 2009 to 2023 with multiple linear regression analysis methods. The aim is to determine the influence of each variable on NTT's economic growth. The results of the study are expected to enrich the literature, become a reference for policy makers in formulating effective development strategies, and evaluation materials for previously implemented policies.

## LITERATURE REVIEW

### *Theory of Economic Growth*

In the classical theory of economic growth developed by Adam Smith and David Ricardo, economic growth is driven by population growth and total output, with output influenced by natural resources, labor, and capital (Sukirno, 2012). Meanwhile, the Neo Classical theory put forward by Robert Solow and Trevor Swan emphasizes the importance of capital accumulation, population growth, and technological progress, with the Solow Model showing that the savings rate, population, and technological progress affect economic output. The Harrod-Domar theory emphasizes the role of capital accumulation with investment as the main key to economic growth because it functions to increase income and production capacity (Jhingan, 2010). Joseph Schumpeter in his theory emphasized the importance of the role of entrepreneurs in creating economic growth through innovation, with the capitalist system considered best for encouraging technical innovation that includes new products, new markets, sources of raw materials, and new industrial organizations (Arsyad, 2010).

### ***Theory of Poverty***

The vicious circle of poverty theory according to Nurkse (1953) states that poverty occurs due to low productivity which causes low income, savings, and investment, so that lack of capital and backwardness continue to repeat themselves in a cycle that is difficult to break. Meanwhile, the theory Kuznets (1955) explains that in the process of economic development, income inequality initially increases and then decreases, forming an inverted U-curve. In the early stages, poverty may increase because economic growth is only enjoyed by certain groups, but in the next stage, the expansion of the industrial sector and government policies will reduce inequality and poverty as the results of growth begin to be felt by the wider community.

### ***Human Development Index Theory***

The human capital theory proposed by Gary Becker and Theodore Schultz views humans as assets whose value can be increased through investments such as education, skills, and health. According to Becker (1993), these investments increase productivity and income, thereby driving economic growth. Thus, increasing human capital can reduce poverty, narrow income inequality, and support long-term economic growth.

### ***Open Unemployment Theory***

Labor market theory according to Keynes (1883-1946) in (Aji & Ariani, 2024) states that nominal wages tend to be downwardly sticky due to institutional factors such as contracts and unions, so that the labor market does not always reach full equilibrium. Unemployment occurs primarily due to a lack of aggregate demand, not because workers refuse to work at existing wages.

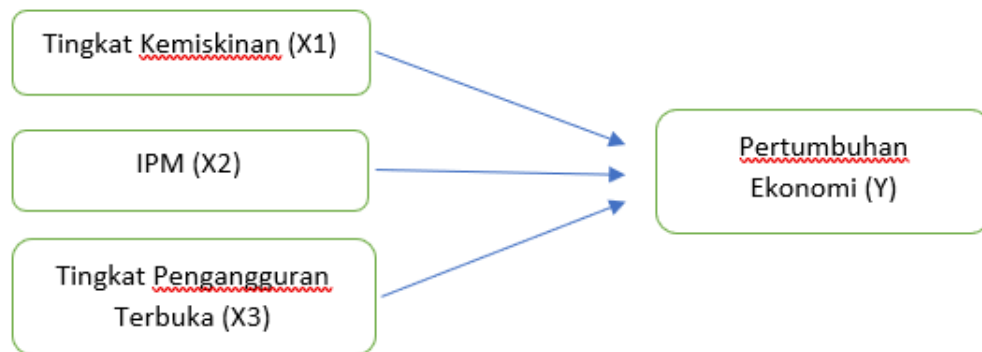


Figure 1. Conceptual Framework

## **METHODOLOGY**

This study uses a quantitative approach with secondary data and is processed using SPSS version 23. The method used is statistical analysis. multiple linear regression to analyze the effect of independent variables on dependent variables. The data used were obtained from the Central Statistics Agency of East Nusa Tenggara Province in the form of time series data over a period of 15 years from 2009 to 2023 and literature such as papers, journals, and published reports.

Multiple linear regression analysis was chosen in this study because it allows simultaneous testing of the influence of several independent variables on the dependent variable. This method is able to measure the magnitude and significance of the contribution of each factor separately and control the influence of other variables. In addition, multiple linear regression provides a predictive model that can be used to estimate economic growth based on changes in Development variables, and produces a coefficient of determination that shows how much variation in economic growth can be explained by the model.

## RESEARCH RESULT

The classical assumption test is a series of tests conducted before linear regression analysis to ensure that the regression model used provides accurate and reliable estimates. The following are the results of the classical assumption test:

Table 1. Normality Test Results

		Unstandardized Residual
N		15
Normal	Mean	.0000000
Parameters <sup>a,b</sup>	Std. Deviation	.83964879
Most Extreme Differences	Absolute	.172
	Positive	.172
	Negative	-.126
Test Statistics		.172
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Source: SPSS, (2024)

Table 2. Multicollinearity Test Results

Variables	Collinearity Statistics	
	Tolerance	VIF
Poverty Level	.811	1.233
Human Development Index	.728	1,374
Open Unemployment Rate	.609	1,643

Source: SPSS, (2024)

Table 3. Heteroscedasticity Test Results

Variables	Sig.
Poverty Level	.137
Human Development Index	.302
Open Unemployment Rate	.072

Source: SPSS, (2024)

Table 4. Autocorrelation Test Results

Change Statistics					Durbin-Watson
R Square Change	F Change	df1	df2	Sig. F Change	
.757	11,424	3	11	.001	1,922

Source: SPSS, (2024)

Based on the results of multiple linear regression tests conducted using SPSS software, this study aims to analyze the influence of independent variables, namely poverty rate, human development index, and open unemployment rate, on the dependent variable, namely economic growth. The following are the results of the multiple linear regression equation obtained:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \dots \dots \dots (1)$$

$$Y = 5.812 + 0.779X_1 - 0.098X_2 - 3.469X_3 \dots (2)$$

The coefficient of determination test is conducted to determine the extent to which the independent variable is able to explain the variation in the dependent variable being studied.

Table 5. Results of the Determination Coefficient Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870a	.757	.691	.94725

Source: SPSS, (2024)

Table 6. Simultaneous Test Results (F Test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30,752	3	10,251	11,424	.001b
	Residual	9,870	11	.897		
	Total	40,623	14			

Source: SPSS, (2024)

Table 7. Partial Test Results (t-Test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5,812	9,033		.643	.533
Poverty Level	.779	.264	.487	2,952	.013
Human Development Index	-.098	.126	-.135	-.772	.456
Open Unemployment Rate	-3.469	.766	-.862	-4,527	.001

Source: SPSS, (2024)

## DISCUSSION

Based on the results of data analysis for 2009-2023, the influence of poverty levels, human development index, and open unemployment rates on economic growth in East Nusa Tenggara Province can be explained as follows:

### *The Influence of Poverty Levels on Economic Growth*

The results of the study show that the poverty rate has a positive effect on economic growth in East Nusa Tenggara (NTT) Province during the period 2009 to 2023. Every 1% increase in the poverty rate is followed by an increase in economic growth of 0.779%, with a significance level of 0.013 indicating a significant relationship. This phenomenon can be explained by the role of fiscal stimulus and poverty alleviation programs run by the government, such as the Family Hope Program (PKH), Non-Cash Food Assistance (BPNT), and Direct Cash Assistance (BLT). Social assistance funds allocated to areas with high poverty rates increase the purchasing power of the poor, thus driving the wheels of the local economy, especially the retail and service sectors. For example, the allocation of village funds in NTT increased from 2.5 trillion to 2.6 trillion in 2023, and the BLT budget increased by 10% to 15.9 billion rupiah, which flowed directly to the community's economy.

In addition, the economic characteristics of NTT which are dominated by the subsistence agricultural sector and the informal sector also play a role in this phenomenon. The subsistence agricultural sector, despite its low productivity, is the main source of livelihood for most of the population. The increase in the number of poor people often expands cheap labor in the informal sector, such as small trade, informal services, and micro-enterprises, which indirectly drives local economic activity. Thus, poverty in NTT contributes to economic growth through an intensive labor mechanism that reduces production costs and increases the efficiency of small and medium enterprises.

This finding differs from the classical theory as put forward by Kuznets (1955) And Todaro & Smith (2011), which states that poverty is a structural obstacle to economic growth due to low productivity and consumption capacity. However, in the context of NTT, poverty is actually a driver of economic growth, although the benefits are not evenly distributed and are enjoyed more by the middle to upper classes. The Growth Incidence Curve analysis also shows that economic growth in NTT is not yet pro-poor, because it is driven by low wages and subsistence consumption from the poor. In other words, although high poverty drives economic activity, this does not reflect an overall improvement in welfare for all levels of society.

### *The Influence of Human Development Index on Economic Growth*

Based on the research results, the coefficient value of the human development index (HDI) shows a negative number with a significance level of  $0.456 > 0.05$ , so  $H_0$  is rejected. This means that the HDI variable does not have a significant effect on economic growth in East Nusa Tenggara (NTT) Province in 2009-2023. This phenomenon indicates that the increase in HDI is actually followed by a decrease in economic growth. This condition can be explained by structural and contextual factors that characterize the NTT economy, where

although the HDI reflects the quality of human resources through education, health, and living standards, its impact on economic growth is not optimal. One of the causes is the mismatch between improving the quality of human resources and the needs of the local labor market which is still dominated by traditional sectors such as subsistence agriculture, livestock, and fisheries with low productivity and very low average farmer wages.

The government has indeed made efforts to increase access to education and health services as part of increasing the HDI, with literacy rates reaching 99.60% and school participation at 98.62%. However, this transformation has not been able to create a significant chain effect on the economic sector because formal employment is still very limited. Most of the workforce remains dependent on informal jobs with low productivity, so that increasing the HDI has not been able to accelerate the structural transformation of the regional economy. In addition, the imbalance in the distribution of human development benefits is also a problem, because complex geographic conditions and limited access to basic services cause the increase in the HDI to be concentrated in certain areas without a broad impact on the provincial economy. This inequality is reflected in the NTT Gini coefficient of 0.325 in 2023, and the disparity in the HDI between districts/cities causes the effect of the HDI on the aggregate economy to be diluted and statistically insignificant.

This finding contradicts the Human Capital theory according to Becker (1993) which states that investment in human capital through education, health, and training should increase productivity and drive economic growth. However, in NTT there is a deviation due to the unavailability of adequate economic infrastructure, in accordance with the concept of complementary factors in Becker's theory which emphasizes that the effectiveness of human capital depends on the availability of supporting factors. This study is in line with the findings Prabowo et al. (2023), which shows a negative and insignificant influence of HDI on economic growth, but is different from (2021), which states that an increase in the HDI is followed by high economic growth.

### ***The Influence of Open Unemployment Rate on Economic Growth***

The results of the study showed a negative coefficient value with a significance level of  $0.001 < 0.05$ , so  $H_0$  is accepted, which means that the open unemployment rate has a significant negative effect on economic growth in East Nusa Tenggara (NTT) Province in the period 2009-2023. The increase in open unemployment causes economic growth to decline, because it creates instability that reduces investor confidence. Data for 2023 shows an open unemployment rate of 3.14%, with urban unemployment (5.26%) higher than rural unemployment (2.41%), illustrating the inequality in job provision. The study also confirms that investors prefer areas with low unemployment because they are more stable and profitable.

This phenomenon is also influenced by the reduction in people's purchasing power due to high unemployment, which reduces domestic consumption and aggregate demand, thereby hampering investment and the development of the productive sector (Rahman et al., 2023; Sari & Yulianto, 2022).



The geographical condition of NTT, which consists of islands with limited infrastructure and an economy dominated by the primary sector, exacerbates the negative impact of unemployment. This finding reinforces Okun's Law, which states that an increase in unemployment reduces disposable income, lowers purchasing power, and ultimately slows economic growth. Research by Kusumawati et al. (2021), also supports this finding by stating that increased unemployment reduces the demand for goods and has a negative impact on economic growth.

## CONCLUSION AND RECOMMENDATION

Based on the research results, the poverty rate has a positive and significant effect on economic growth in East Nusa Tenggara Province. This suggests that poverty alleviation efforts through government programs, social assistance, and increased public spending have successfully boosted economic activity. Social transfers increase the purchasing power of the poor, which in turn stimulates aggregate demand and accelerates local economic turnover. In addition, government investment in the empowerment of the poor also supports the growth of micro and small enterprises as drivers of the regional economy.

Meanwhile, the Human Development Index (HDI) has no significant effect on economic growth in East Nusa Tenggara Province. Although the quality of human resources in terms of health, education, and income has increased, the transformation has not been optimal in increasing economic productivity. This is due to the structural limitations of the economy, infrastructure gaps, skills mismatches with local labor market needs, and the uneven distribution of human development across the province.

In addition, the open unemployment rate has a negative and significant effect on economic growth in East Nusa Tenggara Province. An increase in unemployment adversely affects the economy through a decrease in people's purchasing power, which causes demand for goods and services to decline. Producers respond by reducing production output, thus slowing overall economic growth. This negative relationship is consistent with Okun's Law in macroeconomic theory, which states that there is an inverse relationship between unemployment and economic growth.

## ADVANCED RESEARCH

Future research is recommended to expand the scope of independent variables by adding various additional relevant factors in order to gain a more comprehensive understanding. In addition, the analysis can be extended by using a longer time span so that long-term trends can be identified more clearly. The use of data with a higher frequency, such as monthly or quarterly data, can also increase the rigor of the research results and provide a more detailed picture of the dynamics of the variables studied.

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