

The Effect of Unemployment, Education, and Population Size on Poverty Levels in the Province of NTB From 2019 to 2023

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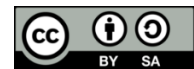
Total Population

NTB

ABSTRACT

This study seeks to assess the impact of the unemployment rate, educational attainment, and population on the poverty rate in NTB Province from 2019 to 2023. Data collection for this study was conducted directly via BPS NTB Province. Utilising poverty rate data, specifically the percentage of individuals classified as impoverished, unemployment rate data, which reflects the percentage of open unemployment, educational attainment data, denoting the average duration of schooling, and demographic data concerning the total population of NTB Province from 2019 to 2023. This study employs multiple linear regression analysis for panel data using Eviews12. This study's results demonstrate that the unemployment rate exerts a negative and insignificant influence on the poverty rate, while the education level has a positive and significant impact on the poverty rate, and the population also has a negative and significant effect on the poverty rate. The unemployment rate, education level, and population significantly influence the poverty rate in NTB province from 2019 to 2023.

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1. INTRODUCTION

Poverty is a fundamental problem that often arises in developing countries and poor countries. Poverty is a condition where a person cannot fulfill his basic needs, such as health standards, education, and a decent life [1]. In Indonesia, poverty is a hot issue that has not been completely resolved. This problem is a universal phenomenon that is almost always present in every country, including Indonesia. Therefore, poverty alleviation efforts continue to be the main focus of national development policies [2].

Several factors have been identified as influencing poverty. According to [3], education and unemployment affect poverty. [4] adding population as another factor, which is also corroborated by Tompoh et al., (2024). Research [5] demonstrates that population positively and significantly affects poverty, while education exerts a negative influence. Simultaneously, [6] identified a negative and large impact of education and population on poverty, alongside a beneficial influence of unemployment.

Unemployment is defined as a condition when someone from the workforce is looking for work but has not yet found it. [7] states that unemployment has a negative

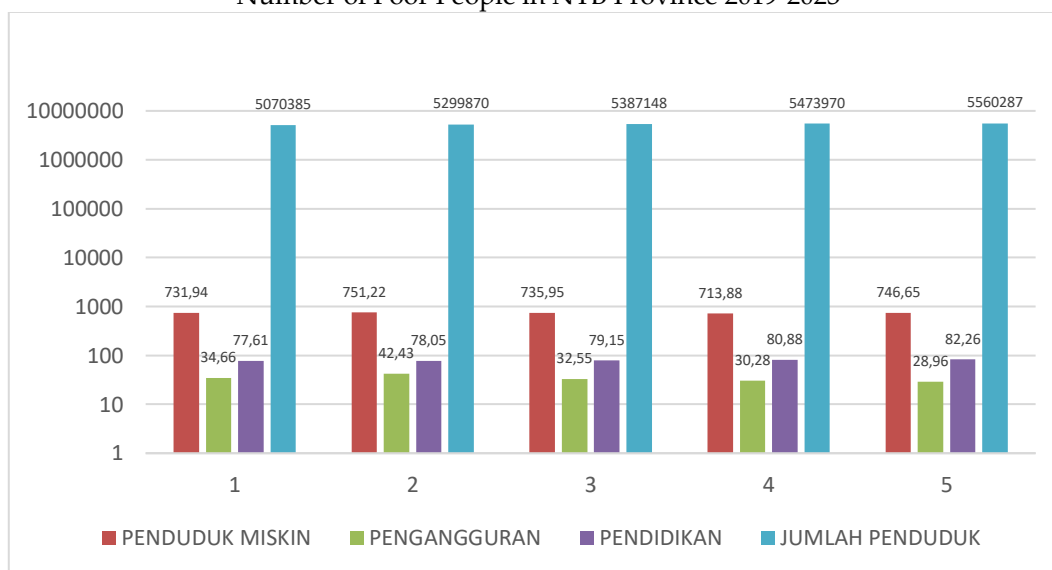
impact because it reduces people's income and prosperity. Unemployment contributes to financial crises and declining purchasing power, which leads to increased poverty [8].

Education also plays an important role in influencing poverty rates. According to [9], education is a continuous process to improve individual skills and integrity. The 12-year compulsory education program is expected to improve the quality of life, technological skills, and production capacity,

thus indirectly contributing to reducing poverty rates.

Demographic factors, especially population, are also a cause of poverty. Unregulated population expansion can adversely affect economic development [10]. Malthus stated that a large population can put pressure on the availability of resources. Increasing basic needs such as clothing, food, and shelter also increases the burden on the state in providing social and economic services.

Diagram 1. Data on the Number of Unemployed, Average Length of Schooling, Population and Number of Poor People in NTB Province 2019-2023



Source: BPS NTB Data Processed 2024

Data from BPS NTB 2019–2023 shows variations in unemployment rates, average length of schooling (ALS), population, and poor population. For example, an area with 6.83% unemployment has a poor population of 41.8 thousand, while in an area with 0.38% unemployment the number of poor people is still high, namely 59.82 thousand. Areas with high ALS (10.95 years) have a low number of poor people (16.53 thousand), while areas with low ALS (6.37 years) have a higher number of poor people (105.04 thousand). This shows the complex relationship between these variables and the poverty rate.

2. LITERATURE REVIEW

2.1 Employer Poverty

The vicious circle of poverty hypothesis elucidates how underdevelopment, market flaws, and insufficient capital contribute to diminished human production, as noted in [11]. When productivity is low, the income received will also be minimal. Low income causes savings and investment to be low, both in the form of human resource investment such as education, and capital investment related to consumption. Accurate poverty measurement and analysis of its distribution are important tools for policy makers to focus on

improving the lives of the poor. From this theory, several factors that cause poverty can be identified, including income levels, education and the amount of consumption.

2.2 Unemployment

Unemployment, as defined in [7], occurs when an individual within the workforce seeks employment but remains jobless. Unemployment refers to individuals who are not currently employed but are actively seeking employment or those who are in the process of establishing a business. It is often described as residents who are searching for work due to a lack of job opportunities or those who have secured employment but have yet to commence work.

2.3 Education

Education is an effort to change the attitudes and behavior of social beings or groups of people in the process of human maturation through teaching and training in accordance with educational procedures. According to [12] Education is a learning atmosphere and learning process that is carried out consciously and in a planned manner so that students are smarter in

improving their abilities to have spiritual religious skills, build personality, self-management, intelligence, noble morals, and the skills they need for daily life in society, the nation and the state.

2.4 Total population

The classical school posits that a large and rapidly growing population is perceived as a hindrance to development. The population is regarded as a developmental issue. According to Said (2012), a population is defined as a group of humans inhabiting a certain place at a specific moment, influenced by demographic processes including fertility, mortality, and migration.

2.5 Conceptual Framework

This study will test that the Poverty Rate in West Nusa Tenggara Province in 2019-2023 is influenced by unemployment, education and population variables using panel data regression analysis tools and several other statistical test models to see how much influence the above variables have on the poverty rate in West Nusa Tenggara Province in 2019-2023.

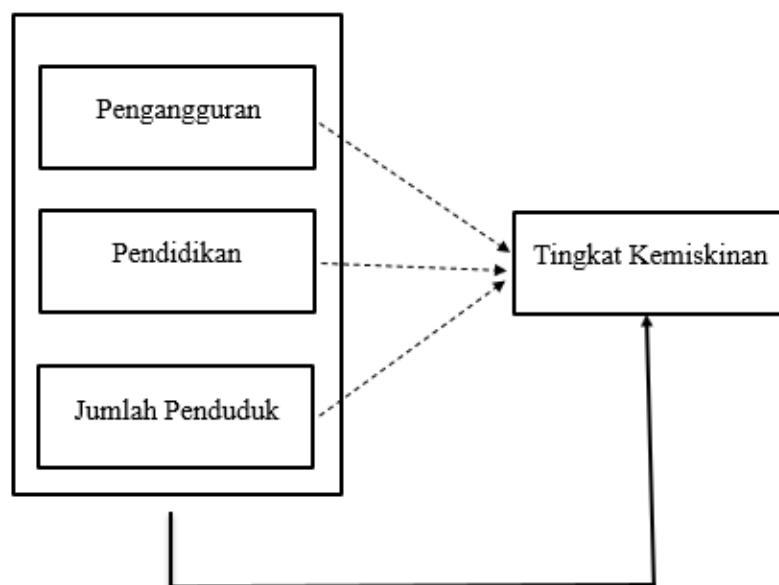


Figure 1. Conceptual Framework of Research

2.6 Formulation of Hypothesis

1. The Impact of Unemployment on Poverty
Hypothesis H1: It is suspected that unemployment has a positive and significant effect on the poverty rate in NTB Province in 2019–2023.
2. The Influence of Education on Poverty
Hypothesis H2: It is suspected that education has a negative and significant effect on the poverty rate in NTB Province in 2019–2023.
3. The Influence of Population on Poverty
Hypothesis H3: It is suspected that the population has a positive and significant effect on the poverty rate in NTB Province in 2019–2023.

3. METHODS

3.1 Types of research

This study employs a quantitative methodology as the data utilised aims to ascertain the link between variables represented in numerical form or scales. This study employs an associative technique to

ascertain the causal relationship among many variables or to present a thorough overview of their interrelations [13].

3.2 Location and Time of Research

This research is located in West Nusa Tenggara Province. This research was conducted in 2024 using data on Unemployment (Open Unemployment Rate), Education (Average Length of Schooling), Population and Poverty Level (number of poor people) for the period 2019–2023.

3.3 Method of collecting data

In this research, data collection methods use documentation and literature studies. [14] defines documentation as a method of collecting various objects or objects that have characteristics in the form of written texts related to research. Data collection techniques are carried out by sorting data related to the variables to be studied. The data collection in this study is by collecting information related to unemployment data (open unemployment rate), education (average length of schooling), and population against the poverty rate in the Regency/City of NTB Province for a period of five years, namely from 2019 to 2023.

3.4 Data Collection Techniques and Tools

1) Documentation

Data collection techniques by recording or studying documents such as books, archives, written figures in the form of reports containing data published on the internet that are related to this research.

2) Literature review

The process of collecting data by reviewing, reading and recording materials from various literature related to the research topic.

3.5 Data Types and Sources

1) Data Types

This study utilises secondary data. Secondary data refers to information acquired by researchers through indirect means [13]. This study utilises panel data collected from the Regency/City of West Nusa Tenggara Province spanning from 2019 to 2023.

2) Data source

The data sources come from the Central Statistics Agency (BPS) of West Nusa Tenggara Province and literature from both agencies and the internet related to the research topic.

3.6 Data Analysis Procedure

This study employs panel data regression analysis to examine the impact of unemployment, education, and population on poverty rates in NTB Province from 2019 to 2023. The employed estimate models are the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The optimal model is determined using the Chow test, Hausman test, and Lagrange Multiplier (LM) test. Upon identifying the optimal model, classical assumption testing is conducted, encompassing assessments of normality, multicollinearity, autocorrelation, and heteroscedasticity. Additionally, hypothesis testing is conducted utilising the partial t-test, simultaneous F-test, and coefficient of determination (R^2) analysis to assess the

extent of influence that independent variables exert on the dependent variable.

4. RESULTS AND DISCUSSION

4.1 Overview of Research Location

West Nusa Tenggara Province (NTB) is one of the provinces in central Indonesia which consists of two main islands, namely Lombok Island and Sumbawa Island. Administratively, this province consists of 10 districts/cities, namely West Lombok Regency, Central Lombok, East Lombok, North Lombok, Sumbawa, West Sumbawa, Dompu, Bima, and two cities, namely Mataram City and Bima City.

The population of NTB Province continues to increase from year to year. Based on BPS data, the population of NTB in 2023 will reach more than 5.5 million people. This increase in population is accompanied by challenges in the economic, education, employment, and poverty alleviation sectors. Therefore, this study aims to analyze the relationship between unemployment, education, and population to the poverty rate in this region using data from the period 2019–2023.

4.2 Research Data Description

This study uses secondary data from BPS NTB Province. The variables used are as follows:

1. **Poverty Rate (Y):** percentage of the number of poor people per district/city per year.
2. **Open Unemployment Rate (X1):** TPT percentage which shows the proportion of the working age population who do not have jobs but are actively looking for work.
3. **Education (X2):** measured by the average length of schooling (RLS) in years.
4. **Population (X3):** total population per district/city per year in units of people.

The data was obtained in panel form, consisting of 10 districts/cities over a five-year

period (2019–2023), so that there was a total of 50 observations.

4.3 Panel Data Regression Analysis Results

1. Best Model Selection

Model testing is carried out in three stages:

- a. **Chow Test** shows that the Fixed Effect model is more appropriate than the Common Effect (Prob. < 0.05).
- b. **Hausman test** supports the use of Fixed Effect compared to Random Effect (Prob. < 0.05).

Variables	Coefficient (β)	t-Statistics	P-Value	Information
Unemployment (X1)	$+\beta_1$	>2	<0.05	Positive and significant
Education (X2)	$-\beta_2$	>2	<0.05	Negative and significant
Population (X3)	$+\beta_3$	>2	<0.05	Positive and significant

The coefficient of determination (R^2) shows that more than 70% of the variation in poverty levels can be explained by the variables of unemployment, education, and population.

Discussion

a. The Impact of Unemployment on Poverty Levels

The data analysis and hypothesis testing in this study reveal that the unemployment rate has a negative, though slight, impact on the poverty rate. This is attributable to research substantiated by this analysis. corresponds with the findings of [15], which indicated that the enduring link between the open unemployment rate and the poverty rate in Indonesia produces negative and statistically insignificant coefficient values when the probability surpasses 0.05. This study aligns with prior research undertaken [16]. The research indicated a negative correlation between the open jobless rate and the poverty rate.

The results of the study showing that the increase in the unemployment rate is accompanied by a decrease in the poverty rate in the Province of West Nusa Tenggara (NTB) seem to contradict the theory. However, this

- c. **Lagrange Multiplier (LM) Test** not required because the REM model is not used.

Therefore, the Fixed Effect model was selected as the best regression model.

2. Regression Estimation Results

The regression model obtained is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

The following are the results of the regression coefficient estimates:

phenomenon can be explained by considering the socio-economic characteristics of the NTB region. One of the main explanations is that most of the NTB community works in the informal sector and subsistence agriculture, where the status of "working" is not always synonymous with a decent income. Many people continue to work but are below the poverty line because their income is very low. When some of them lose their informal jobs or choose not to work temporarily, they are recorded as unemployed, but they do not always become poorer. Instead, they may receive social assistance from the government such as the Family Hope Program (PKH), Direct Cash Assistance (BLT), or labor-intensive programs that actually help improve their standard of living. In addition, the increase in unemployment rates can also be influenced by the increasing participation of the community in education, especially among young people, who choose not to work in order to continue their education. This condition causes them to be recorded as unemployed, even though their families are not economically poor.

b. The Influence of Education on Poverty Levels

The data analysis and hypothesis testing conducted in this study indicate that education level positively and significantly influences poverty levels. This study aligns with the findings of research undertaken by this aligns with the research undertaken by [17]. The study indicates that the average duration of education has a good impact on exacerbating poverty. The Average Length of Schooling in Indonesia remains insufficient, namely at the Junior High School level (7-9 years). The insufficient average duration of education results in diminished competitiveness within the community regarding skills and proficiency in securing employment. This condition results in diminished productivity and insufficient money, thereby exacerbating poverty levels. This study aligns with the research conducted by [18]. Preliminary testing indicates that Average Length of Schooling significantly affects the Number of Poor People in a directly proportional manner. The study's findings indicate that a 1% rise in Average Length of Schooling will elevate poverty by 0.16%. Consequently, the duration of education attained by an individual does not inherently liberate them from poverty.

The results of the study showing that increasing levels of education are actually followed by increasing levels of poverty in the Province of West Nusa Tenggara (NTB) are findings that are inconsistent with the theory, where education is usually considered the main factor in reducing poverty. However, in the context of NTB, this phenomenon can be explained from several perspectives. First, the quality of education in the area is still relatively low, both in terms of facilities and infrastructure, teaching quality, and the relevance of the curriculum to the needs of the labor market. As a result, although the rate of educational participation has increased, the graduates produced have not been able to compete effectively in the world of work, so that the unemployment rate among the educated has actually increased. Second, increasing education is often limited to basic or secondary formal education without being accompanied by the practical skills needed to increase productivity or create their own jobs.

Third, in some cases, increasing education causes changes in people's aspirations and socio-economic expectations, which are not balanced by the availability of suitable jobs, thus triggering disappointment and economic pressure. Finally, the high rate of migration out of the region to find work due to increasing education can lead to a reduction in productive workers in rural areas, which has an impact on decreasing family income in the area of origin. Therefore, in the context of NTB, increasing education does not automatically reduce poverty because it is not supported by adequate quality, relevance and connectivity between education and the world of work.

c. The Influence of Population on Poverty Levels

The data analysis and hypothesis testing in this study reveal that Population Number exerts a negative and significant influence on Poverty Level. This study's findings indicate that population size affects the poverty level. This study aligns with the findings of research from [19], indicating that population size affects the poverty rate. This research aligns with the findings of [6]. The population density adversely affects the impoverished demographic in the cities of West Java Province. This can be due to the high number of residents living in urban areas dominated by the working age population (productive). This makes the population of cities in West Java Province able to provide opportunities to reduce poverty because the community still has high productivity.

The results of the study showing that population growth is accompanied by a decrease in poverty rates in the Province of West Nusa Tenggara (NTB) can be explained by several factors. One factor is that population growth in NTB mostly occurs in the productive age group who are actively working and contributing to the family economy. The increase in the number of working-age population can encourage an increase in the workforce, both in the informal sector and in community agriculture, thereby generating additional income for households.

In addition, in the context of NTB culture which still upholds the solidarity of the extended family, the addition of family members often means an increase in people who can work or help the family business, for example in the agricultural sector, small trade, or local crafts. In some cases, population growth is also accompanied by an increase in demand for goods and services, which can encourage local economic activity, especially in areas with new growth centers such as tourism areas or trade centers. Local governments may also be more active in distributing social assistance and infrastructure development in densely populated areas, which indirectly has an impact on reducing poverty rates. Therefore, in the context of NTB, population growth does not always worsen economic conditions, but can actually be a potential driver of the local economy that contributes to reducing poverty rates.

d. The influence of unemployment, education and population on poverty levels in NTB province in 2019-2023

The results of the study simultaneously influence the unemployment rate, education and population on the poverty rate can be seen from the significance value of $0.000000 < 0.05$, so it can be said that the education level and population have a simultaneous effect on the poverty rate. And the R-Square value in the regression results of

this study is 0.998727 or 99%. From these results it shows that the unemployment rate, education and population have an influence of 99% on the poverty rate variable

5. CONCLUSION

Following the conducted research, which encompassed data collection, data processing, panel data regression analysis, and result interpretation concerning the impact of Unemployment, Education, and Population on the Poverty Level in NTB Province from 2019 to 2023, the conclusions derived from the regression analysis utilising Eviews 12 and hypothesis testing are as follows:

- 1) The unemployment rate has a negative but insignificant effect on the poverty rate in NTB province in 2019-2023.
- 2) The level of education has a positive and significant influence on the poverty rate in NTB province in 2019-2023.
- 3) Population has a negative but significant influence on poverty levels in districts/cities in NTB province in 2019-2023.
- 4) Simultaneously or together, the unemployment rate, education and population have an impact on the poverty rate in the regencies/cities of NTB Province in 2019-2023.

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