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The Influence of Local Original Income, Unemployment and Gini Ratio on Poverty Levels in West Nusa Tenggara Province 2019-2023

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This article contributes to:

Abstract. This study aims to analyze the Influence of Local Original Income (X1) Unemployment (X2) and Gini Ratio on Poverty Level in West Nusa Tenggara Province in 2019-2023. The data used are secondary data obtained from the Central Statistics Agency (BPS) of NTB Province, and analyzed using the panel data regression method. The results of the study partially show that local original income (X1) has a positive and insignificant effect on the poverty level (Y) of West Nusa Tenggara Province in 2019-2023. unemployment (X2) has a negative and significant effect on the poverty level (Y) of West Nusa Tenggara Province in 2019-2023 and the Gini ratio (X3) has a positive and significant effect on the poverty level (Y). While simultaneously the variables of local original income (X1) unemployment (X2) and the Gini ratio simultaneously affect the poverty level (Y) of West Nusa Tenggara Province in 2019-2023.

Keywords: Local Original Income, Unemployment, Gini Ratio, Poverty Level.

1. Introduction

One of the main objectives of national development as stated in the Preamble to the 1945 Constitution of the Republic of Indonesia is to advance general welfare [1]. General welfare reflects the condition of fulfilling the material, spiritual, and social needs of society, thus enabling individuals to live decently and develop their potential in order to carry out their social and economic functions. One indicator that can be used to describe community welfare is the poverty rate [2]. Poverty is a complex social and economic problem that always exists in every region, both at the local and national levels. This phenomenon not only reflects low community income but also illustrates limitations in access to employment, education, and health services [3]. According to the World Bank, the main cause of poverty in a country is low income and asset ownership (lack of income and assets) needed to meet basic needs such as food, clothing, shelter, education, and health [4]. Therefore, poverty needs serious attention from the government through policies and programs that are oriented towards poverty alleviation [5]. In fact, the success of poverty alleviation programs has become one of the main indicators in assessing the effectiveness of regional development [6].

West Nusa Tenggara (NTB) Province is one of the provinces in Indonesia that still faces a relatively high poverty rate. Although this region has abundant natural resource potential and is a leading tourist destination, the level of community welfare is not evenly distributed. The presence of the Mandalika Special Economic Zone (KEK) and the strategic position of Lombok Island as an international tourist destination after Bali have not been able to fully lift all levels of society out of poverty. Based on data from the NTB Central

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Statistics Agency, several areas in NTB, such as East Lombok and Central Lombok, have consistently recorded a high number of poor people in the period 2019 to 2023. On the other hand, areas such as Mataram City are experiencing an increasing trend in the number of poor people, indicating a challenge in equalizing welfare.

The problem of poverty is not only caused by low community income, but is also closely related to the effectiveness of regional financial management. In the context of regional autonomy, regional governments are required to be independent in managing their finances in order to finance the implementation of government, regional development, and improve community welfare. One important aspect in supporting regional fiscal independence is increasing Regional Original Income (PAD). PAD is all regional revenues originating from the original potential of the region and collected based on regional regulations [7]. High PAD reflects the independence and fiscal capacity of a region in financing development programs, including poverty alleviation programs.

Based on the realization data of NTB Province's PAD in the last five years (2019–2023), there has been quite significant fluctuation. After experiencing a drastic decline in 2020 due to the COVID-19 pandemic, NTB's PAD began to show a recovery trend, and reached its highest point in 2023 of IDR 2.79 trillion [8]. This indicates an increase in fiscal capacity that can be optimized for poverty alleviation and job creation. In addition to PAD, the unemployment rate is also a factor that influences poverty. Unemployment illustrates the mismatch between the number of workers and available jobs. High unemployment rates can cause a decrease in household income and have a direct impact on the decline in the level of community welfare [9]. In NTB, although it had increased during the pandemic, the Open Unemployment Rate (TPT) was gradually suppressed, from 4.22% in 2020 to 2.8% in 2023, indicating improvements in economic conditions and the labor market.

Another indicator that reflects the condition of community welfare is the inequality of income distribution which can be measured by the Gini coefficient. The Gini ratio shows the level of income inequality, where a value approaching zero indicates an even distribution, while a value approaching one indicates high inequality [10]. High inequality widens the gap between the rich and poor, and can worsen existing poverty conditions. Therefore, analysis of the Gini ratio is important in evaluating the extent to which the results of development have been enjoyed by all levels of society [11].

Considering the three main indicators in measuring public welfare, namely poverty rate, unemployment rate, and Gini ratio, it can be said that NTB Province is on the path to recovery and improvement [12], [13]. However, challenges still exist, especially in accelerating the reduction of structural poverty, improving the quality of employment, and narrowing the economic gap between levels of society. Therefore, a sustainable and inclusive development strategy, as well as efficient and transparent regional financial management are the main keys in encouraging public welfare in this region. Collaboration between the government, private sector, and civil society is needed so that the great potential of NTB, such as the tourism and agricultural sectors, can be maximized to improve the quality of life of the community as a whole.

2. Method

2.1 Type of Research, Location and Time of Research

This study uses a descriptive quantitative method, which according to Purwanto [14] aims to test the theory through measuring variables with numbers and statistical data analysis. The study was conducted in all districts/cities in West Nusa Tenggara Province using secondary data in the form of poverty rates, Regional Original Income

(PAD), unemployment, and the Gini ratio, based on BPS publication data for the period 2019–2023.

2.2 Data collection technique

In this study, the data collection method was carried out through documentation and literature study. According to De Groot et al. [15], documentation is a method for collecting various objects or written texts related to research, by sorting data that is relevant to the variables studied, such as official documents from related agencies. Literature study is used to obtain supporting data from books, articles, journals, and other relevant sources of information to strengthen the analysis. The type of data used is secondary data sourced from publications of the Central Statistics Agency (BPS) of West Nusa Tenggara Province and various other supporting sources. The data used is in the form of panel data, namely a combination of time series data and cross-section data, with a coverage of 10 districts/cities in West Nusa Tenggara as a cross section, and the period 2019 to 2023 as a time series.

2.3 Data Analysis Procedure

In this study, the model used is panel data regression analysis. According to Rahali and Akhloufi [16] as quoted, panel data or pooled time series is a combination or amalgamation of time series data, which has temporal observations on a unit of analysis with cross-place data that has observations of a unit of analysis at a certain point in time. The time series data used in this study is the period 2019-2023, while the cross-section data used covers 8 districts and 2 cities in West Nusa Tenggara Province. In addition, data analysis calculations can be done using the help of the Eview12 program.

The model equation of panel data regression in equation 1.

$$LogY_{it} = \alpha + Log\ \beta_1 X1_{it} + \beta 2\, X2_{it} + \beta 3 X3_{it} + \varepsilon_{it} \quad (1)$$

With the poverty rate (Yit) as the dependent variable. Independent variables include Local Original Income (X1it), Unemployment (X2it), and Gini Ratio (X3it). This model also includes constants (α), intercepts (β), and regression coefficients β1, β2, and β3. Logarithmic transformation (LOG) is applied to several variables to stabilize variance, while εit is an error term that represents the uncertainty that cannot be explained by the model.

2.4 Regression Model Estimation and Model Specification Testing

Common Effect Model (Pooled Least Square) is a panel data model that combines time series and cross section data using the Ordinary Least Square (OLS) method, where the intercept and slope are assumed to be constant across time and individuals. This model does not consider differences in behavior between individuals or time, so although it is often used as a comparison, it is not the main estimate because it is at risk of bias [17]. Fixed Effect Model (FEM) uses the Least Square Dummy Variable (LSDV) method by adding dummy variables to capture differences in intercept between individuals, but the slope is still considered the same. Meanwhile, the Random Effect Model (REM) does not use dummy variables, but assumes that the difference in intercept is random (stochastic) and the residual has a relationship between time and objects. To determine the best model, three specification tests are carried out: (1) Chow test to compare Common Effect with Fixed Effect, where if the probability value <0.05 then the Fixed Effect model is more appropriate; (2) Hausman test to compare Fixed Effect and Random Effect, where if the p-value <0.05 then the Fixed Effect is more appropriate; and (3) Lagrange Multiplier (LM) test to compare Common Effect with Random Effect, where if the p-value < 0.05 then Random Effect is selected.

2.5 Classical Assumption Test

In this study, four types of classical assumption tests were applied to ensure the validity of the regression model, namely: (1) Normality Test, which is used to determine whether the residual data is normally distributed. The test is carried out using the Jarque-Bera (JB) method, where the data is considered normal if the JB probability value is greater than the 5% significance level. (2) Multicollinearity Test, aims to detect the presence of correlation between independent variables in the model. This test uses the VIF (Variance Inflation Factor) value, with the provision that there is no multicollinearity if VIF <10 and the tolerance value> 0.1. (3) Autocorrelation Test, used to determine the relationship between residuals at different times, which generally occurs in time series data. Autocorrelation can affect the accuracy of model estimation. (4) Heteroscedasticity Test, which tests whether the residual variance is constant across all independent variable values. If it is not constant, then heteroscedasticity occurs which can cause the regression coefficient estimate to be inefficient and deviate.

2.6 Hypothesis Testing and Coefficient of Determination

The t-test is a method used to test each independent variable individually (partially) to determine the extent of its influence on the dependent variable [18]. This test is carried out using a significance level of 5% ($\alpha = 0.05$). If the significance value of an independent variable is less than 0.05, then it can be concluded that the variable has a significant influence on the dependent variable. Conversely, if the significance value is greater than or equal to 0.05, then the variable is considered to have no significant influence on the dependent variable. Furthermore, the simultaneous test or F statistical test is used to determine whether all independent variables together have a significant effect on the dependent variable. This test aims to test the null hypothesis (H_0) which states that there is no simultaneous influence of the independent variables on the dependent variable, against the alternative hypothesis (H_1) which states that there is a simultaneous influence. Decision making is done by comparing the F-calculated value with the F-table value at a significance level of 5%. If the F-calculated value is greater than the F-table or the significance value is less than 0.05, then H_0 is rejected and it can be concluded that the independent variables simultaneously have a significant effect on the dependent variable.

Finally, the analysis of the coefficient of determination or R-squared (R2) is used to measure how much the independent variable is able to explain the variation that occurs in the dependent variable. The R2 value ranges from 0 to 1. The closer to 1, the greater the proportion of the variation in the dependent variable that can be explained by the regression model. Conversely, a small R2 value indicates that the model's ability to explain the variation in the dependent variable is very limited.

3. Results and Discussion

3.1 Regression Model Estimation Results

Data from all variables used in this study, namely poverty rate, local revenue, balancing funds, unemployment and Gini ratio were analyzed using regression with the Eviews version 12 application. Estimation of the panel data regression model was carried out to determine the most appropriate model in this analysis. Three approaches used in estimating the panel regression model are the common effect model, fixed effect model, and random effect model. In this study, data transformation was carried out to change the measurement scale to meet the analysis assumptions. One of the transformation methods used is logarithm, which is applied to all independent and dependent variables.

Logarithmic transformation helps change the distribution of data that was initially not normal to be closer to a normal distribution. The results of this transformation are not only used in regression analysis, but also in the Classical Assumption Test, Model Suitability Test, and Hypothesis Test [19].

3.1.1 Common Effect Models

Common Effect Model is the simplest approach in panel data analysis because it only combines time series and cross-section data without considering individual differences or time dimensions. This model assumes that the characteristics of the company data remain consistent throughout the observation period. Model estimation in this approach can be done using the Ordinary Least Square (OLS) method or the least squares technique.

Table 1. Model Estimation with the Common Effect Model Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.08321	2.017786	-6.483943	0.0000
LOG(X1)	0.978085	0.099799	9.800575	0.0000
X2	-0.284693	0.049987	-5.695388	0.0000
X3	-1.367161	1.544129	-0.885393	0.3805

Based on the regression results using the Common Effect Model (CEM) above, it shows a constant regression coefficient of -13.08321, a t-statistic value of -6.483943 with a probability of 0.0000 <0.05; the regression coefficient X1 is 0.978085, the t-statistic value is 9.800575 with a probability of 0.0000 <0.05, meaning that PAD (X1) has a significant effect on the poverty rate at the α = 5% level; for the unemployment regression coefficient variable (X2) of -0.284693, the t-statistic value is -5.695388 with a probability of 0.0000 <0.05, meaning that unemployment (X2) has a significant effect on the poverty rate at the α = 5% level; and for the Gini ratio variable (X3) it has a regression coefficient of -1.367161, a t-statistic value of -0.885393 with a probability of 0.3805 > 0.05, meaning that the Gini ratio (X3) does not have a significant effect on the poverty rate at the α=5% level.

3.1.2 Fixed Effect Model

This model assumes that differences between individuals can be accommodated through differences in their intercepts. In panel data estimation using the Fixed Effect Model, a dummy variable technique is applied to capture variations in intercepts between firms. However, the slope value is still assumed to be the same for all firms. This estimation approach is also known as the Least Square Dummy Variable (LSDV).

Table 2. Model Estimation with Fixed Effect Model Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.860724	0.378007	10.21338	0.0000
LOG(X1)	0.006069	0.019805	0.306445	0.7610
X2	-0.026148	0.006094	-4.290508	0.0001
X3	0.417503	0.137072	3.045876	0.0043

Based on the regression results using the Fixed Effect Model (FEM) above, it shows a constant regression coefficient of 3.860724, a t-statistic value of 10.21338 with a probability of 0.0000 <0.05; the regression coefficient X1 is 0.006069, the t-statistic value is 0.306445 with a probability of 0.7610> 0.05, meaning that PAD (X1) does not have a significant effect on the poverty rate at the α = 5% level; for the unemployment regression coefficient variable (X2) of -0.026148, the t-statistic value is -4.290508 with a probability of 0.0001 <0.05, meaning that unemployment (X2) has a significant effect on the poverty rate at the α = 5% level; and for the Gini ratio variable (X3) it has a regression coefficient of 0.417503, a t-statistic value of 3.045876 with a probability of 0.0043 < 0.05,

meaning that the Gini ratio (X3) has a significant effect on the poverty rate at the α=5% level.

3.1.3 Random Effect Model

This model is used to estimate panel data when disturbance variables are potentially correlated across time or individuals [20]. In this approach, the intercept is modeled through the error term of each company. One of the advantages of the Random Effect Model is its ability to handle heteroscedasticity problems. This model is also known as the Error Component Model (ECM) or uses the Generalized Least Square (GLS) approach.

Table 3. Model Estimation with Random Effect Model Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.658229	0.390108	9.377476	0.0000
LOG(X1)	0.017260	0.019694	0.876392	0.3854
X2	-0.027256	0.006082	-4.481044	0.0000
X3	0.400220	0.136982	2.921690	0.0054

Based on the regression results using the Random Effect Model (REM) above, it shows a constant regression coefficient of 3.658229, a t-statistic value of 9.377476 with a probability of 0.0000> 0.05; the regression coefficient X1 is 0.017260, the t-statistic value is 0.876392 with a probability of 0.3854> 0.05, meaning that PAD (X1) does not have a significant effect on the poverty rate at the α = 5% level; for the unemployment regression variable coefficient (X2) of -0.027256, the t-statistic value is -4.481044 with a probability of 0.0000 <0.05, meaning that unemployment (X2) has a significant effect on the poverty rate at the α = 5% level; and for the Gini ratio variable (X3) it has a regression coefficient of 0.400220, a t-statistic value of 2.921690 with a probability of 0.0054 < 0.05, meaning that the Gini ratio (X3) has a significant effect on the poverty rate at the α=5% level.

3.1.4 Model Specification Test Results

The results of the Chow and Hausman tests can be seen in Table 4.

Table 4. Chow and Hausman Test Results

Effects Test	Statistic	d.f.	Prob.
	Chow Test Results		
Cross-section F	1077.305032	(9.37)	0.0000
Cross-section Chi-square	278.616668	9	0.0000
	Hausman Test Results		
Cross-section random	43.970587	3	0.0000

The results of the Chow Test in the table above can be concluded that H0 is rejected because the results of the Cross-section Chi Square Prob are smaller than alpha (0.0000 <0.05), so the model used in this study is Fixed effect. Based on the results of the Hausman test, the Chi-Square Statistic value is 43.970587 and has a probability value of 0.0000 <0.05 (5%), so the results of the Hausman test indicate that the fixed effect model is the appropriate model.

3.2 Classical Assumption Test Results

There are four types of submissions in the classical assumptions applied in this study. The results of the normality test are shown in Figure 1. The normality test is seen from the Jarque-Bera P-Value or Probability value which must be above 0.05 Neupane [21], where in this study it is 0.533258 > 0.05 which states that the data is normally distributed. The results of the multicollinearity test are shown in Table 5.

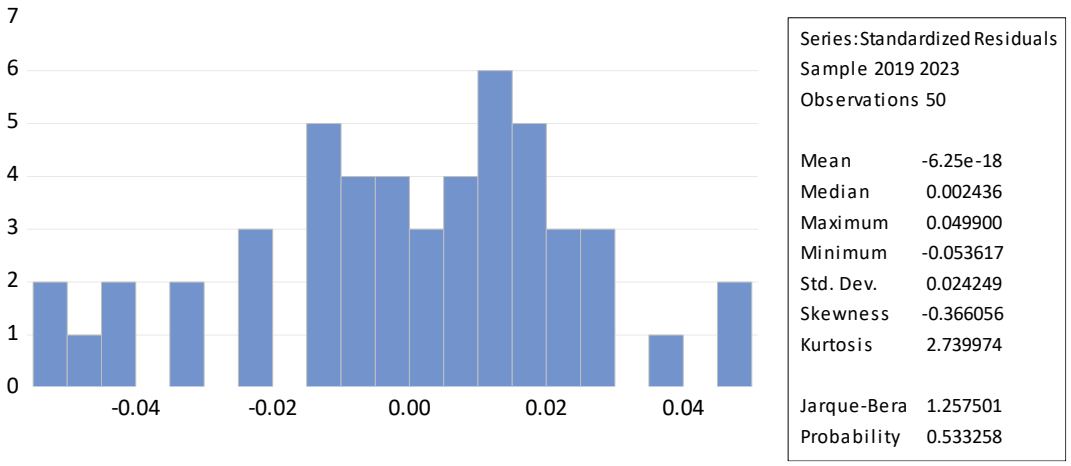

Figure 1. Normality Test Results

Table 5. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF	Durbin-Watson
C	0.142889	9174.674	NA	1.518632
LOG(X1)	0.000392	9079.322	1.001696	
X2	3.71E-05	27.67026	1.004896	
X3	0.018789	158.9542	1.004062	

From the results of the multicollinearity test, the Centered VIF Log x1 value is 1.001696 <10, the Centered VIF x2 value is 1.004896 <10 and the Centered VIF x3 value is 1.004062 <10, so it can be concluded that the data used passes the multicollinearity test. Then the results of the autocorrelation test can be seen from the Durbin Watson stat value of 1.518632> 0.05, so the data used passes the autocorrelation test. The heteroscedasticity test is presented in Table 6.

Table 6. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.156664	0.166821	0.939117	0.3538
LOG(X1)	-0.007836	0.008740	-0.896500	0.3758
X2	-0.000852	0.002690	-0.316923	0.7531
X3	0.039455	0.060492	0.652233	0.5183

The results of the heteroscedasticity test can be concluded that the probability of each variable is greater than alpha (0.05), which means that in this regression model it can be said that there is no heteroscedasticity problem or it passes the heteroscedasticity test.

3.3 Panel Data Regression Model Estimation Results

From the results of panel data regression calculations with model specification testing, the best model is the Fixed Effect Model (FEM). The results of the data processing can be seen in Table 7.

Table 7. Fixed Effect Model Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.860724	0.378007	10.21338	0.0000
LOG(X1)	0.006069	0.019805	0.306445	0.7610
X2	-0.026148	0.006094	-4.290508	0.0001
X3	0.417503	0.137072	3.045876	0.0043
Root MSE	0.024005	R-squared		0.998973
Mean dependent var	4.039586	Adjusted R-squared		0.998639
S.D. dependent var	0.756553	S.E. of regression		0.027905
Akaike info criterion	-4.101094	Sum squared resid		0.028812
Schwarz criterion	-3.603968	Log likelihood		115.5274
Hannan-Quinn criter.	-3.911786	F-statistic		2998.257
Durbin-Watson stat	1.518632	Prob(F-statistic)		0.000000

Based on the results of panel data regression using the Fixed Effect Model (FEM) approach, the following equation is obtained:

$$Log\ (Y) = 3.8607 + 0.0061\ LOG(X1) - 0.0261(X2) + 0.417(X3) \quad (2)$$

The constant value of 3.8607 means that if the independent variables (PAD, unemployment and Gini ratio) are 0 (zero), then the value of the dependent variable (poverty rate) is 3.8607. The X1 coefficient value is 0.0061, which means that every thousand increase in the PAD variable will increase the poverty rate by 60,692,618 thousand people. The X2 coefficient value is -0.0261, which means that every 1% increase in the unemployment variable will reduce poverty by 26.1 million people. The X3 coefficient value is 0.417, which means that a 1% increase in the Gini ratio variable will increase poverty by 41.7 million people.

3.4 Hypothesis Test Results

The t-test results on the PAD variable (X1) obtained a t-count value of 0.306445 <t-table, which is 2.01410 and a probability value of 0.7610> 0.05. These results state that the T count is in the H0 acceptance area and H1 is rejected, meaning that PAD partially has no effect on the poverty rate. The t-test results on the unemployment variable (X2) obtained a t-count value of -4.290508 <t-table, which is 2.01290 and a probability value of 0.0001 <0.05. These results state that the T count is in the H1 acceptance area and H0 is rejected, meaning that unemployment partially has an effect on the poverty rate.

The t-test results on the gini ratio variable (X3) obtained a t-count value of 3.045876> t-table, which is 2.01290 and a probability value of 0.0043 <0.05. These results state that the T count is in the H1 acceptance area and H0 is rejected, meaning that the gini ratio partially affects the poverty rate. The f-count value is 2998.257> f-table, which is 2.81 and a probability value of 0.000000 <0.05 so that variables X1, X2, and X3 (PAD, unemployment and gini ratio) have a joint effect on the poverty rate. These results state that the F-count is in the H1 acceptance area and H0 is rejected.

3.5 Results of the Determination Coefficient Test (R^2 Test)

It can be seen that the Adjusted R-Squared value is 0.998639 or 99% where the coefficient of determination value indicates that the independent variables consisting of local revenue, unemployment and the gini ratio explain the dependent variable, namely the poverty rate. While 1% is caused by other variables not included in this study.

3.6 Discussion

3.6.1 The Influence of Regional Original Income on Poverty Level

From the results of the panel data regression estimation that has been carried out, the original regional income of the district/city shows a regression coefficient of 0.006069 with a probability value of 0.7610 greater than 0.05, meaning that there is a positive and insignificant influence between original regional income and the poverty rate, every time there is an increase in PAD of 1 thousand, it will increase the poverty rate by 6,069 thousand people in 10 districts/cities in NTB Province in 2019-2023. The results of this study are in line with research conducted by Kadafi & Murtala, (2020) which states that local revenue has no effect on poverty rates. This is basically the Original Revenue of a Regency/City (PAD) that has a positive PAD growth rate has the potential to have better economic growth, one of the indicators of which is a decrease in poverty, but if a region is unable to dig up revenue due to lack of knowledge and expertise, it will have an impact on increasing poverty rates.

3.6.2 The Impact of Unemployment on Poverty Levels

From the results of the panel data regression estimation that has been carried out, district/city unemployment shows a regression coefficient of -0.026148 with a probability value of 0.0001 or less than 0.05, meaning that there is a negative and significant influence between unemployment and poverty levels, every time unemployment increases by one percent, it will reduce the poverty rate by 26,148 thousand people in 10 districts/cities in NTB Province in 2019-2023. The results of this study are in line with research conducted by Mussida and Sciulli [22] which states that unemployment has a negative and significant effect on poverty. This can be explained through the dynamics of everyday life in society. In one family, there is a condition where a family member is unemployed, but can still fulfill a decent life because he is supported by the relatively high income of other family members. In a situation like this, the basic needs of the individual can still be met adequately, so that he is not categorized as economically poor. This shows that employment status is not always the only indicator in determining the level of poverty, because individual welfare is also greatly influenced by the overall economic conditions of the household.

The results of this study are in line with research conducted by Aderounmu et al. [23] which states that unemployment has a negative and significant effect on poverty levels. This is due to the fact that most of the workforce works in the agricultural sector, where almost all family members are involved as farm laborers. Although the unemployment rate is relatively low because many family members work, the income obtained from this sector is very minimal. As a result, this income cannot meet the family's living needs, so they remain in poverty. Similar conditions also occur in the Province of West Nusa Tenggara (NTB), where most of the workforce is absorbed in the agricultural sector, especially as farm laborers. Farm laborers generally receive relatively low and irregular incomes, so even though they are included in the category of working or non-unemployed residents, the income they earn is not enough to meet their living needs properly. As a result, they remain in poverty. This reflects that a low unemployment rate is not always directly proportional to an increase in the decline in the poverty rate.

3.6.3 The Influence of the Gini Ratio on Poverty Levels

From the results of the panel data regression estimation that has been carried out, the district/city gini ratio shows a regression coefficient of 0.417503 with a probability value of 0.0043 or less than 0.05, meaning that there is a positive and significant influence between the gini ratio and the poverty rate, every time the gini ratio increases by one percent, it will increase the poverty rate by 417,503 thousand people in 10 districts/cities in NTB Province in 2019-2023. The results of this study are in line with research conducted by Daniel Hörcher and Graham [24] which states that the gini ratio has a positive and significant effect. This is because when the gap is high where inequality in a group of people, especially in groups that are classified as poor with other people, will also encourage high poverty rates.

The results of this study are also in line with research conducted by Mookodi [25] which states that the Gini ratio has a positive and significant effect. An increase in the Gini ratio which means an increase in inequality will be followed by an increase in the poverty rate. The presence of Covid-19 which has caused a slowdown in the economy has been responded to by the government with various policies aimed at reducing inequality. Various social assistance policies are intended to overcome the decline in purchasing power as a result of the pandemic.

4. Conclusion

Based on the results of the study, it can be concluded that the Local Original Income (PAD) variable has a positive but insignificant effect on the poverty rate in the Regency/City of West Nusa Tenggara Province during the 2019-2023 period. Meanwhile, the unemployment variable has a negative and significant effect on the poverty rate, and the Gini ratio also has a positive and significant effect on the poverty rate in the same area. Simultaneously, PAD, unemployment, and the Gini ratio together have a significant effect on the poverty rate. The adjusted R-squared value of 0.9907 indicates that 99% of the variability in the poverty rate can be explained by the independent variables used in this study, while the rest (1%) is caused by other factors not included in the model. For further research, it is recommended to extend the analysis period to see longer trends and the long-term impact of these factors on the poverty rate. In addition, further research can also include other factors that influence the poverty rate, such as inflation, economic growth, and the quality of human resources.

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6. Declaration

Author contributions and responsibilities - The authors made major contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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Availability of data and materials - All data is available from the author.

Competing interests - The authors declare no competing interests.

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Declaration of generative AI and AI-assisted technologies in the writing process - During the preparation of this work the author did not use AI to write, edit, or other things related to the manuscript.

7. References

[1] P. Susanti and R. Sari, 'Government Responsibility for The Fulfillment Basic Rights of Unprosperous people In Education Sector', *Substantive Justice International Journal of Law*, vol. 4, no. 1, Art. no. 1, Jun. 2021, doi: 10.33096/substantivejustice.v4i1.106.

[2] S. Husni, M. Yusuf, M. Nursan, and A. F. U. Fr, 'Study of household welfare level of crab fishermen using Fisherman Exchange Rate (FER) indicators in East Lombok', *IOP Conf. Ser.: Earth Environ. Sci.*, vol. 1107, no. 1, p. 012112, Dec. 2022, doi: 10.1088/1755-1315/1107/1/012112.

[3] M. Pérez-Escolar and F. Canet, 'Research on vulnerable people and digital inclusion: toward a consolidated taxonomical framework', *Univ Access Inf Soc*, vol. 22, no. 3, pp. 1059–1072, Aug. 2023, doi: 10.1007/s10209-022-00867-x.

[4] C. Cintron *et al.*, 'Enriching tuberculosis research by measuring poverty better: a perspective', *BMC Glob. Public Health*, vol. 3, no. 1, p. 17, Feb. 2025, doi: 10.1186/s44263-025-00127-z.

[5] Y. Guo and Y. Liu, 'Sustainable poverty alleviation and green development in China's underdeveloped areas', *J. Geogr. Sci.*, vol. 32, no. 1, pp. 23–43, Jan. 2022, doi: 10.1007/s11442-021-1932-y.

[6] I. O. M. Cristina, C. Nicoleta, D. R. Cătălin, and F. Margareta, 'Regional Development in Romania: Empirical Evidence Regarding the Factors for Measuring a Prosperous and Sustainable Economy', *Sustainability*, vol. 13, no. 7, Art. no. 7, Jan. 2021, doi: 10.3390/su13073942.

[7] R. Nopiah, 'Determinants of Economic Welfare of Persons with Disabilities in Bengkulu Province', *Socio-Economic and Humanistic Aspects for Township and Industry*, vol. 2, no. 2, Art. no. 2, May 2024, doi: 10.59535/sehati.v2i2.261.

[8] I. Febriani, W. Wahyunadi, and E. Agustiani, 'The Effect of Education Expenditure, Health Expenditure, and Social Assistance Expenditure on Poverty in NTB Province 2013-2022', *Socio-Economic and Humanistic Aspects for Township and Industry*, vol. 1, no. 3, Art. no. 3, Dec. 2023, doi: 10.59535/sehati.v1i3.160.

[9] A. Di Nallo, O. Lipps, D. Oesch, and M. Voorpostel, 'The effect of unemployment on couples separating in Germany and the UK', *Journal of Marriage and Family*, vol. 84, no. 1, pp. 310–329, 2022, doi: 10.1111/jomf.12803.

[10] M. Lian, L. Chen, C. Hui, F. Zhu, and P. Shi, 'On the Relationship Between the Gini Coefficient and Skewness', *Ecology and Evolution*, vol. 14, no. 12, p. e70637, 2024, doi: 10.1002/ece3.70637.

[11] H. Xia, R. Yin, T. Xia, B. Zhao, and B. Qiu, 'People-Oriented: A Framework for Evaluating the Level of Green Space Provision in the Life Circle from a Supply and Demand Perspective: A Case Study of Gulou District, Nanjing, China', *Sustainability*, vol. 16, no. 3, Art. no. 3, Jan. 2024, doi: 10.3390/su16030955.

[12] S. Sriningsih, T. Haryanto, and A. Solihin, 'Determinants of Spending Efficiency for Education and Health Functions', *JEJAK: Jurnal Ekonomi dan Kebijakan*, vol. 17, no. 1, Art. no. 1, Jun. 2024, Accessed: Apr. 22, 2025. [Online]. Available: https://journal.unnes.ac.id/journals/jejak/article/view/5620

[13] L. Purwati, M. Afifi, and S. Sriningsih, 'Complex Interaction Analysis: Labor Force Participation, Education, Unemployment, Health, and Poverty on Economic Growth in Nusa Tenggara Barat', *Socio-Economic and Humanistic Aspects for Township and Industry*, vol. 1, no. 4, Art. no. 4, Dec. 2023, doi: 10.59535/sehati.v1i4.169.

[14] A. Purwanto, 'Education Research Quantitative Analysis for Little Respondents: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS', Jul. 16, 2021, *Social Science Research Network, Rochester, NY*: 3982756. Accessed: Apr. 21, 2025. [Online]. Available: https://papers.ssrn.com/abstract=3982756

[15] K. De Groot, A. J. E. De Veer, A. M. Munster, A. L. Francke, and W. Paans, 'Nursing documentation and its relationship with perceived nursing workload: a mixed-methods study among community nurses', *BMC Nurs*, vol. 21, no. 1, p. 34, Jan. 2022, doi: 10.1186/s12912-022-00811-7.

[16] A. Rahali and M. A. Akhloufi, 'End-to-End Transformer-Based Models in Textual-Based NLP', *AI*, vol. 4, no. 1, Art. no. 1, Mar. 2023, doi: 10.3390/ai4010004.

[17] E. Hedman-Lagerlöf, P. Carlbring, F. Svärdman, H. Riper, P. Cuijpers, and G. Andersson, 'Therapist-supported Internet-based cognitive behaviour therapy yields similar effects as face-to-face therapy for psychiatric and somatic disorders: an updated systematic review and meta-analysis', *World Psychiatry*, vol. 22, no. 2, pp. 305–314, 2023, doi: 10.1002/wps.21088.

[18] Z. Yu, M. Guindani, S. F. Grieco, L. Chen, T. C. Holmes, and X. Xu, 'Beyond t test and ANOVA: applications of mixed-effects models for more rigorous statistical analysis in neuroscience research', *Neuron*, vol. 110, no. 1, pp. 21–35, Jan. 2022, doi: 10.1016/j.neuron.2021.10.030.

[19] J. Rahnenführer *et al.*, 'Statistical analysis of high-dimensional biomedical data: a gentle introduction to analytical goals, common approaches and challenges', *BMC Med*, vol. 21, no. 1, p. 182, May 2023, doi: 10.1186/s12916-023-02858-y.

[20] N. Balasoiu, I. Chifu, and M. Oancea, 'Impact of Direct Taxation on Economic Growth: Empirical Evidence Based on Panel Data Regression Analysis at the Level of Eu Countries', *Sustainability*, vol. 15, no. 9, Art. no. 9, Jan. 2023, doi: 10.3390/su15097146.

[21] D. Neupane, 'Trade Openness and Economic Growth of Nepal: An Econometric Analysis', *Journal of Business and Management*, vol. 7, no. 02, Art. no. 02, Dec. 2023, doi: 10.3126/jbm.v7i02.62585.

[22] C. Mussida and D. Sciulli, 'Being poor and being NEET in Europe: Are these two sides of the same coin?', *J Econ Inequal*, vol. 21, no. 2, pp. 463–482, Jun. 2023, doi: 10.1007/s10888-022-09561-7.

[23] B. Aderounmu, Azuh ,Dominic, Onanuga ,Olaronke, Oluwatomisin ,Ogundipe, Ebenezer ,Bowale, and A. and Azuh, 'Poverty drivers and Nigeria's development: Implications for policy intervention', *Cogent Arts & Humanities*, vol. 8, no. 1, p. 1927495, Jan. 2021, doi: 10.1080/23311983.2021.1927495.

[24] D. Hörcher and D. J. Graham, 'The Gini index of demand imbalances in public transport', *Transportation*, vol. 48, no. 5, pp. 2521–2544, Oct. 2021, doi: 10.1007/s11116-020-10138-4.

[25] L. Mookodi, 'Decomposition analysis of the Gini coefficient of consumer expenditures in Botswana', *Development Southern Africa*, vol. 38, no. 4, pp. 622–642, Jul. 2021, doi: 10.1080/0376835X.2021.1912587.

