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Analysis of the Determinants of Income Inequality in West Nusa Tenggara Province: The Role of Inflation, Open Unemployment Rate, Government Capital Expenditure, and Average Years of Schooling 2016–2025

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ABSTRACT

This study aims to analyze the determinants of income inequality in West Nusa Tenggara Province for the period 2016–2025 using the Gini Ratio as an indicator of inequality and inflation, the Open Unemployment Rate (TPT), government capital expenditure, and Average Years of Schooling (RLS) as independent variables. The study uses a quantitative approach with annual secondary data analyzed using multiple linear regression with the Ordinary Least Squares (OLS) method through EViews 13. The results of the study indicate that partially inflation, TPT, and government capital expenditure have no significant effect on income inequality, while RLS has a negative and significant effect. Simultaneously, inflation, TPT, government capital expenditure, and RLS have a significant effect on income inequality with a probability value of 0.047158. The R-squared value of 0.810755 indicates that the model is able to explain 81.08 percent of the variation in income inequality. The results of the study emphasize the importance of increasing educational attainment as one aspect related to income equality in West Nusa Tenggara Province.

INTRODUCTION

Income inequality is a crucial issue in economic development because increased economic activity is not necessarily accompanied by equitable distribution of development benefits across social groups. Differences in access to education, employment opportunities, productive resources, and income-earning opportunities can create persistent economic disparities throughout the development process (Suparman & Muzakir, 2023) . The development of human resource quality is crucially linked to income distribution, as improvements in human capital can impact labor productivity, employment opportunities, and the level of income received by the community (Suparman & Muzakir, 2023) . Empirical evidence in Indonesia shows that changes in human capital development are significantly related to the dynamics of long-term income inequality (Thye et al., 2022) . Inequality can also vary across regions because economic characteristics and development policies in each region do not always produce the same benefits for all social groups

(Hornok et al., 2024) . This condition shows that controlling inequality cannot be done sufficiently by increasing aggregate economic activity, but also requires policies that are able to expand people's access to economic opportunities and increase the equitable distribution of development benefits.

West Nusa Tenggara (NTB) Province faces a dynamic income inequality that requires attention in the regional development process. Changes in NTB's Gini Ratio indicate that the level of inequality in community expenditure has fluctuated in recent periods. NTB's Gini Ratio was recorded at 0.361 in March 2024 and increased to 0.364 in September 2024 (NTB Central Statistics Agency, 2024) . This condition continued in March 2025 when the Gini Ratio increased to 0.369, before declining again to 0.364 in September 2025 (NTB Central Statistics Agency, 2025) . These changes indicate that the distribution of community expenditure in NTB is not yet fully stable and remains an important part of evaluating regional development outcomes (NTB Central Statistics Agency, 2025) . Research at the district/city level in West Nusa Tenggara (NTB) also shows that economic and employment factors have distinct relationships with income inequality, making regional characteristics a crucial aspect in understanding income distribution in these areas (Deny et al., 2024) . This provides an empirical basis for analyzing factors related to changes in income inequality in West Nusa Tenggara using a provincial-level approach and a longer observation period.

Inflation is a macroeconomic factor that can affect income distribution through changes in purchasing power and people's ability to meet their living needs. Continuous price increases can exert differential pressure across income groups because low-income households tend to have more limited room to adjust consumption when prices rise (Uspri et al., 2023) . A meta-analysis of various studies shows that inflation generally tends to increase income inequality, although the magnitude of the effect is influenced by country characteristics, the period, and the model specifications used (Uspri et al., 2023) . The Open Unemployment Rate (TPT) is also related to inequality because the loss of job opportunities can reduce household income sources and weaken certain groups' access to productive economic activities. Research by Suparman & Muzakir (2023) . showed a relationship between regional inequality and unemployment rates in Indonesia, while Ashari et al.'s (2024) research found that education had a negative and significant effect on income inequality, while unemployment had no significant effect in 34 provinces in Indonesia during the 2019–2023 period. The differences in direction and characteristics of these relationships indicate that the effects of inflation and unemployment on inequality need to be tested based on specific regional conditions and observation periods.

Government capital expenditure is a fiscal instrument that can influence equity through the provision of infrastructure and public assets that support community economic activities. The effectiveness of government spending in reducing inequality depends on the type of expenditure, the distribution of benefits, and the ability of fiscal policy to reach

groups in need. Research by Ramdani (2024) shows that capital expenditure has a positive effect on the Gini coefficient in an analysis of 34 provinces in Indonesia for the period 2007–2022, while education has a negative effect on income inequality. These findings indicate that increased government spending does not necessarily automatically result in equality if the allocation and benefits of expenditure are not distributed proportionally. Further evidence from research by Wirawan & Yasa (2026) in districts/cities in Bali Province shows that capital expenditure and education levels have a negative and significant effect on income distribution inequality. These differences in findings indicate that the relationship between capital expenditure and inequality can depend on regional characteristics, expenditure structure, and the effectiveness of fiscal policy implementation. Average Years of Schooling (RLS) is used as an education indicator that reflects the average number of years of formal education completed by the population and can describe the quality of a region's human capital. Increasing educational attainment has the potential to expand employment opportunities and increase productivity, thereby contributing to income equality (Suparman & Muzakir, 2023) .

Empirical findings on the determinants of income inequality in Indonesia continue to show mixed results. Research by Ashari et al. (2024) found that education had a negative and significant effect on income inequality, while unemployment had no significant effect in 34 provinces in Indonesia during the 2019–2023 period. Research by Suparman & Muzakir (2023) showed that human capital, unemployment, and economic growth are related to regional inequality in Indonesia. Deny et al. (2024) found that unemployment had a positive but insignificant effect on income inequality in districts/cities in West Nusa Tenggara Province during the 2019–2023 period. Evidence regarding capital expenditure also does not show a uniform direction. Sutiono & Syafitri (2018) found that regional budget capital expenditure tended to increase income inequality in East Java, while central government capital expenditure tended to reduce inequality. Putri (2024) found that capital expenditure had no significant effect on income inequality in the Special Region of Yogyakarta Province. The differences in the results show that the relationship between education, unemployment, capital expenditure, and income inequality does not yet have a uniform pattern, so testing based on regional characteristics and specific observation periods is still necessary.

A research gap is evident in the limited number of studies specifically examining the determinants of income inequality at the West Nusa Tenggara provincial level using the latest time series data and combining macroeconomic factors, labor markets, fiscal policy, and educational attainment in a single model. The research by Deny et al. (2024) has provided important empirical evidence regarding inequality in West Nusa Tenggara (NTB), but its unit of analysis is ten districts/cities with panel data spanning the 2019–2023 period and explanatory variables consisting of population, economic growth, the Human Development Index (HDI), investment, and unemployment. This study has not examined

inflation, government capital expenditure, and average years of schooling as determinants separately at the provincial level. The 2016–2025 observation period in this study provides a longer timeframe to examine the dynamics of inequality in NTB before, during, and after the pandemic, although the limited number of observations still needs to be considered in interpreting the results. The model specification of this research places inflation, the open unemployment rate, government capital expenditure, and average years of schooling as explanatory variables for income inequality, as measured by the Gini Ratio. The combination of these variables provides space to analyze the relationship between price conditions, labor markets, local government fiscal capacity, and educational accumulation in explaining changes in income inequality in NTB.

This study aims to analyze the determinants of income inequality in West Nusa Tenggara Province during the 2016–2025 period using the Gini Ratio as an inequality indicator and inflation, the Open Unemployment Rate, government capital expenditure, and average years of schooling as explanatory variables. The analysis was conducted to examine the influence of each variable partially and the influence of all variables simultaneously on income inequality in NTB. The use of provincial-level time series data is expected to provide empirical evidence regarding the relationship between macroeconomic conditions, labor markets, fiscal policy, and education with income distribution in NTB. The results of this study are expected to enrich the literature on income inequality at the regional level while providing empirical information for local governments in evaluating policies on price stabilization, expanding employment opportunities, managing capital expenditures, and improving educational attainment as part of efforts to strengthen the equality of development outcomes.

RESEARCH METHODS

Types of research

This study uses a quantitative approach with an explanatory design to analyze the determinants of income inequality in West Nusa Tenggara Province. The quantitative approach was used because the study focuses on testing the empirical relationship between income inequality as the dependent variable and inflation, the Open Unemployment Rate (TPT), government capital expenditure, and Mean Years of Schooling (RLS) as independent variables. The use of regression on time series data allows for empirical analysis of year-to-year changes in variables, but the temporal characteristics of the data need to be considered because autocorrelation can affect the efficiency of estimation and the validity of statistical inference (Baillie et al., 2022) . This study uses annual secondary data from West Nusa Tenggara Province for the period 2016–2025, resulting in 10 observations .

The research data was obtained from official government sources, primarily the Central Statistics Agency (BPS) of West Nusa Tenggara Province and official local

government documents. The Gini Ratio, inflation, Open Unemployment Rate, and Average Years of Schooling were obtained from BPS publications and statistical tables, while capital expenditure data was obtained from the realization of the Regional Revenue and Expenditure Budget (APBD) of West Nusa Tenggara Province. The use of the Gini Ratio as an indicator of inequality is in line with recent empirical research that uses the Gini coefficient as the main measure of income distribution inequality (Hartono et al., 2024). BPS also provides annual Gini Ratio data as part of the population expenditure distribution statistics.

The dependent variable in this study is income inequality (GR) as measured using the Gini Ratio. The Gini Ratio is an indicator that describes the level of inequality in the distribution of public expenditure, with a value closer to one indicating a higher level of inequality. The independent variables consist of inflation (INF), the Open Unemployment Rate (TPT), government capital expenditure (BM), and Average Years of Schooling (RLS). Inflation is measured as a percentage change in prices on an annual basis, TPT is measured as the percentage of the workforce that is unemployed and currently looking for work, capital expenditure is measured based on the realized value of government capital expenditure in rupiah, while RLS is measured based on the average number of years of formal education that the population has completed. The specifications of the research model are formulated as follows:

$$GR_t = \beta_0 + \beta_1 INF_t + \beta_2 TPT_t + \beta_3 BM_t + \beta_4 RLS_t + \varepsilon_t$$

Information:

- GRt : Gini Ratio/income inequality (ratio)
- INFt : Inflation (percent, %)
- TPTt : Open Unemployment Rate (percent, %)
- BMt : Government Capital Expenditure (rupiah, Rp)
- RLS : Average Length of Schooling (years)
- β 0 : Constant
- β 1, β 2, β 3, β 4 : Regression coefficients
- εt : Error term
- t : Time period 2016–2025

Model testing was conducted through several diagnostic tests. The Jarque–Bera normality test was used to determine the residual distribution. The Variance Inflation Factor (VIF) was used to identify a strong linear relationship between independent variables. The Breusch–Pagan–Godfrey heteroscedasticity test was used to determine whether the residual variance is constant. The Breusch–Godfrey Serial Correlation LM Test was used to test for autocorrelation because the research data is in the form of a time series. Examination of autocorrelation and heteroscedasticity is necessary because violation of these assumptions can affect the accuracy of the estimation results and statistical tests in the regression model. (Ghozali, 2018)

Hypothesis testing was conducted using a t-test to determine the effect of each independent variable partially and an F-test to determine the effect of inflation, TPT, government capital expenditure, and RLS simultaneously on income inequality. The significance level used was 5% ($\alpha = 0.05$). Testing decisions were based on the probability value (p-value), with $p < 0.05$ indicating a statistically significant effect. The coefficient of determination ($R2$) and Adjusted R^2 were used to see the ability of the independent variables to explain variations in the Gini Ratio.

RESULTS AND DISCUSSION

Research result

Diagnostic Test

Normality Test

The normality test was carried out using Jarque–Bera to determine whether the model residuals were normally distributed.

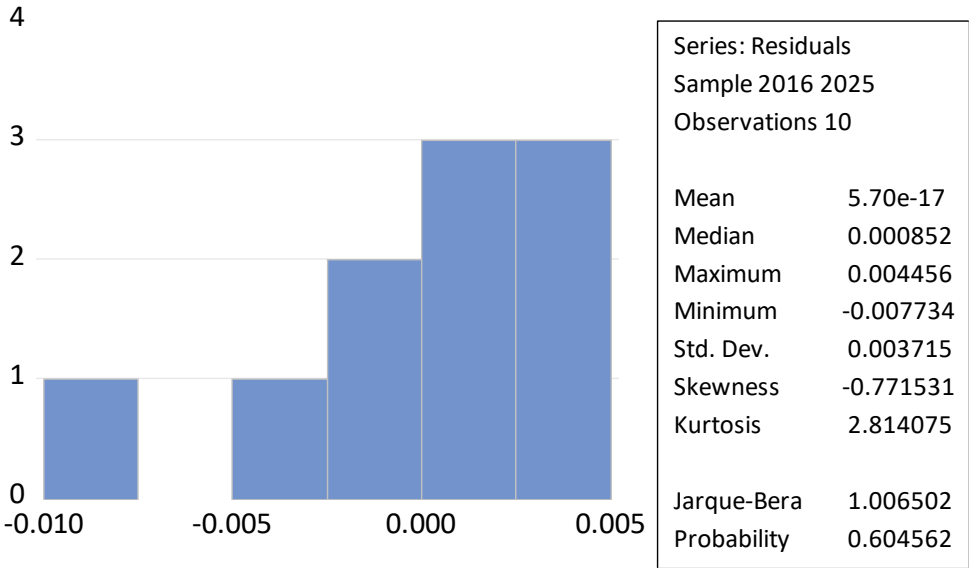


Figure 1.1 Histogram of Normality Test

The test results show a Jarque–Bera value of 1.006502 with a probability of 0.604562. This probability value is greater than the 5% significance level (0.604562 > 0.05), so H_0 is not rejected. Thus, the model residuals can be declared normally distributed. Residual normality testing is one examination that can be used to assess error characteristics in a regression model (Ghozali, 2018).

Multicollinearity Test

The multicollinearity test was conducted using the Variance Inflation Factor (VIF) to determine the presence of a high linear correlation between independent variables.

Table 2. Multicollinearity Test

Variables	Centered VIF	VIF Limit	Information
Log(RLS)	1.951736	< 10	There is no multicollinearity
INF	2,159954	< 10	There is no multicollinearity
log(BM)	1.678597	< 10	There is no multicollinearity
TPT	2.316697	< 10	There is no multicollinearity

Source: Processed Data (2026)

The test results show a Centered VIF value of 1.951736 for log(RLS), 2.159954 for INF, 1.678597 for log(BM), and 2.316697 for TPT. All of these values are below the limit of 10, so it can be concluded that the model does not experience multicollinearity problems. A low VIF value indicates that the independent variables in the model do not have a high linear correlation so that coefficient estimation can be done without indication of serious multicollinearity (Ghozali, 2018) .

Heteroscedasticity Test

The heteroscedasticity test was conducted using Breusch–Pagan–Godfrey with the null hypothesis that the residuals are homoscedastic.

Table 3. Heteroscedasticity Test

Testing Method	Obs*R-squared	Chi-Square Prob.	α	Information
Breusch-Pagan-Godfrey	5,203940	0.2670	0.05	There is no heteroscedasticity

Source: Processed Data (2026)

The test results show an ObsR-squared* value of 5.203940 with a Chi-Square probability of 0.2670. This probability value is greater than 0.05, so H_0 is not rejected and it can be concluded that the model does not experience heteroscedasticity problems. This condition indicates that the residual variance is relatively constant so that there is no statistical evidence of systematic changes in the residual variance in the regression model (Ghozali, 2018) .

Autocorrelation Test

The autocorrelation test was conducted using the Breusch–Godfrey Serial Correlation LM Test because the study used time series data for the period 2016–2025.

Table 4. Autocorrelation Test

Testing Method	Obs*R-squared	Chi-Square Prob.	α	Information
Breusch-Godfrey LM Test (Lag 2)	3.027223	0.2201	0.05	No autocorrelation occurs

Source: Processed Data (2026)

The test results show an ObsR-squared* value of 3.027223 with a Chi-Square probability of 0.2201 in testing up to lag 2. This probability value is greater than 0.05, so H_0 is not rejected and it can be concluded that there is no autocorrelation problem in the model residuals. Autocorrelation examination is important in time series regression because serial correlation in the residuals can affect the validity of statistical inferences in the regression model (Baillie et al., 2022) .

F Test (Simultaneous)

The F test is used to determine whether the variables of inflation, the Open Unemployment Rate (TPT), government capital expenditure, and the Average Years of Schooling (RLS) simultaneously influence income inequality. The test criteria use a 5% significance level, namely H_0 is rejected if the probability value of the F-statistic <0.05. The estimation results show an F-statistic value of 5.355180 with a Prob(F-statistic) of 0.047158. Because the probability value is smaller than 0.05, H_0 is rejected. This means that inflation, TPT, government capital expenditure, and RLS simultaneously have a significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period.

Table 4. F Test

F-statistic	Prob. F-statistic	α	Decision	Information
5,355180	0.047158	0.05	H_0 rejected	Have a significant effect simultaneously

Source: Processed Data (2026)

These results indicate that the combination of price conditions represented by inflation, labor market conditions through the TPT, fiscal policy through capital expenditure, and educational attainment through the RLS collectively have a significant relationship with variations in income inequality in NTB. These results support H5, which states that these four variables simultaneously influence income inequality.

t-test (Partial)

The t-test was used to determine the partial effect of each independent variable on income inequality. Decisions were made at a 5% significance level, with the stipulation that a variable is considered significant if its probability value is <0.05.

Table 5. t-test

Variables	Coefficient	t-Statistic	Prob.	α	Decision	Information
Inflation (INF)	-0.003226	-2.063078	0.0941	0.05	H_0 accepted	Not significant
TPT	-0.007255	-1.459863	0.2042	0.05	H_0 accepted	Not significant

log(BM)	0.019447	1.612688	0.1677	0.05	H_0 accepted	Not significant
log(RLS)	-0.155960	-3.830432	0.0122	0.05	H_0 rejected	Significant

Source: Processed Data (2026)

The inflation variable has a coefficient of -0.003226 with a t-statistic of -2.063078 and a probability of 0.0941. The probability value is greater than 0.05, indicating that inflation does not significantly affect income inequality at the 5% level. A negative coefficient indicates a tendency for a 1 percentage point increase in inflation to be followed by a 0.003226 point decrease in the Gini Ratio, assuming other variables remain constant. This relationship does not yet have sufficient statistical evidence at the 95% confidence level.

The TPT variable has a coefficient of -0.007255 with a t-statistic of -1.459863 and a probability of 0.2042. The probability value is greater than 0.05, so TPT does not have a significant effect on income inequality. A negative coefficient indicates a tendency that a 1 percentage point increase in TPT is followed by a 0.007255 point decrease in the Gini Ratio, but this relationship is not statistically significant and cannot be used as empirical evidence regarding the effect of TPT on income inequality.

The capital expenditure variable in log(BM) form has a coefficient of 0.019447 with a t-statistic of 1.612688 and a probability of 0.1677. The probability value is greater than 0.05, so capital expenditure does not have a significant effect on income inequality. A positive coefficient indicates a tendency that an increase in capital expenditure is related to an increase in the Gini Ratio, but this relationship has not been statistically proven. Because the model is in the form of a log-log, a 1% increase in capital expenditure is estimated to increase the Gini Ratio by approximately 0.000194 points, assuming other variables remain constant.

The log(RLS) variable has a coefficient of -0.155960 with a t-statistic of -3.830432 and a probability of 0.0122. The probability value is less than 0.05, so RLS has a negative and significant effect on income inequality. Because the model is in the form of a lin-log, a 1% increase in RLS is estimated to reduce the Gini Ratio by approximately 0.001560 points, assuming other variables remain constant. These results indicate that increasing educational attainment has a significant relationship with reducing income inequality in West Nusa Tenggara Province.

Coefficient of Determination

The R-squared value of 0.810755 indicates that approximately 81.08 percent of the variation in income inequality proxied by the Gini Ratio can be jointly explained by inflation, TPT, government capital expenditure, and RLS in the research model. Meanwhile, approximately 18.92 percent of the variation in the Gini Ratio is explained by other factors not included in the model. The Adjusted R-squared value of 0.659358

indicates that after considering the number of independent variables and sample size, the explanatory power of the adjusted model reaches approximately 65.94 percent.

The research model has relatively high overall explanatory power, but the influence of individual variables varies. RLS is the only variable that shows a partially significant effect, while inflation, TPT, and capital expenditure do not show a significant effect at the 5 percent level. This condition is even more relevant in this study because the number of observations is only 10 years, so the limited degrees of freedom can affect the accuracy of the estimates and the power of the statistical tests.

Discussion

The effect of inflation on the Gini ratio

The estimation results show that inflation has a coefficient of -0.003226 with a t-statistic of -2.063078 and a probability of 0.0941. This probability value is greater than 0.05 so that inflation does not have a significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period. A negative coefficient indicates a tendency that an increase in inflation by 1 percentage point is followed by a decrease in the Gini Ratio by 0.003226 points assuming other variables are constant, but this relationship does not yet have sufficient statistical evidence at the 5% significance level.

This negative trend indicates that the inflation mechanism on inequality in NTB does not fully follow the theoretical relationship that assumes that price increases will put greater pressure on low-income groups. The impact of inflation on the distribution of income and expenditure depends on the composition of price increases, the ability of households to adjust income and consumption, and changes in relative income across social groups. Research by Pratikto & Mohamad (2016) shows that the impact of price changes in Indonesia varies by region and commodity group, so aggregate inflation does not always reflect the same impact on all income groups. Therefore, an increase in inflation in a given period does not automatically result in an increase in the Gini Ratio if changes in income or expenditure occur differently across social groups. This condition is relevant to the development of inflation in NTB during the study period. NTB's annual inflation in 2020 was only 0.60 percent, then increased significantly to 6.23 percent in 2022, primarily influenced by increases in the prices of transportation and food, beverages, and tobacco. (Central Statistics Agency of West Nusa Tenggara, 2025) Inflation then declined again to 1.28 percent in 2024 (Central Statistics Agency of West Nusa Tenggara, 2025) . The differences in inflation rates and composition indicate that price pressures occurring during the observation period were not homogeneous, so their impact on the distribution of public expenditure may differ between periods.

This finding is similar to research in the Special Region of Yogyakarta Province, which found that inflation had a negative and insignificant effect on income inequality. Similar results were also found in Putri's (2024) study , "The Impact of Uncertainty and

Macroeconomics on Income Inequality in Indonesia," which showed that inflation had no significant effect on income inequality in Indonesia in either the short or long term. Recent research by Abizar Hadraji Mufti Abizar & Riswanti Budi (2025) also found that inflation had no significant effect on Indonesia's Gini Ratio for the 2013–2023 period.

The insignificant inflation can be attributed to the characteristics of price changes and policy responses during the study period. Inflation fluctuations in NTB do not always indicate prolonged price pressures; research data shows inflation moving from 0.60% in 2020 to 6.23% in 2022, then declining again to 1.28% in 2024 and 1.84% in 2025. This condition suggests that the impact of inflation on the distribution of public expenditure is temporary and not yet strong enough to produce consistent changes in inequality throughout the study period. These results also demonstrate that the relationship between inflation and inequality can vary by region, observation period, and characteristics of the public consumption structure.

The Effect of Open Unemployment Rate on Income Inequality

The estimation results show that the Open Unemployment Rate (TPT) has a coefficient of -0.007255 with a t-statistic value of -1.459863 and a probability of 0.2042. This probability value is greater than the 5 percent significance level, so that the TPT does not have a significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period. The negative direction of the coefficient indicates that an increase in the TPT in the model is correlated with a decrease in the Gini Ratio, but the relationship is not statistically strong enough to conclude that there is a real effect.

The negative trend of the Unemployment Rate (TPT) in this study can be explained by the difference between the unemployment and inequality indicators used. The TPT reflects the proportion of the unemployed workforce, while the Gini Ratio in this study reflects the distribution of community expenditure. The relationship between the two indicators is not straightforward because changes in unemployment first affect employment status and household income, which then can influence consumption capacity and the distribution of expenditure across social groups. Differences in income, working hours, informal employment, productivity, and household income sources can cause changes in the TPT not always to be followed by changes in the Gini Ratio in the same direction.

Employment conditions in West Nusa Tenggara Province also indicate that changes in the Open Unemployment Rate (TPT) are occurring within a relatively dynamic labor market. NTB's Open Unemployment Rate (TPT) was recorded at 3.30 percent in February 2024 and declined to 3.22 percent in February 2025, while the number of employed people in February 2025 reached approximately 3.09 million (Bank Indonesia, 2025) . These changes indicate that changes in the open unemployment rate must be considered in conjunction with the labor market's ability to absorb labor and the characteristics of available jobs. A decrease in the Open Unemployment Rate (TPT) does not automatically

indicate that all groups in society experienced an equal increase in income, so its impact on expenditure distribution may be limited.

Theoretically, the expected relationship between unemployment and inequality tends to be positive because rising unemployment can reduce some people's access to income from work. The Keynesian perspective places employment opportunities as a crucial component of economic activity and the formation of community income (Keynes, 1936) . The results of this study indicate a direction different from that expectation. This finding still has empirical support, as research by Gayatri et al. (2026) found that the Open to Work (TPT) had a negative but insignificant effect on income inequality in provinces on Sumatra Island during 2018–2024.

Similar findings were also seen in the research of Ashari et al (2024) which shows that unemployment has no significant effect on income inequality in 34 provinces in Indonesia during 2019–2023, while education has a negative and significant effect. These results demonstrate that changes in the unemployment rate do not always directly translate into changes in income inequality at the aggregate regional level. Labor market structure, job characteristics, household income, and the availability of alternative income sources can influence the relationship between unemployment and income distribution.

The negative trend in this study can also be understood from the characteristics of the NTB economy, which has a diverse employment structure and income sources. A decrease in the TPT does not necessarily equate to income equality if the jobs created have different productivity and income levels. Conversely, an increase in the TPT in a particular group does not necessarily increase the aggregate Gini Ratio if the change occurs in a group with a relatively small proportion of income. This condition can weaken the statistical relationship between the TPT and the Gini Ratio during the observation period.

Thus, the research results show that the Open Market for Workers (TPT) has not been a significant determinant of income inequality in NTB in the 2016–2025 period. This finding indicates that inequality reduction policies should not be solely focused on reducing unemployment rates, but also need to consider job quality, labor productivity, wage levels, and community access to jobs that provide decent incomes. These results also demonstrate that the relationship between the labor market and inequality is contextual, requiring employment policies to be tailored to regional economic characteristics.

The Impact of Government Capital Expenditure on Income Inequality

The estimation results show that government capital expenditure measured in log(BM) form has a coefficient of 0.019447 with a t-statistic value of 1.612688 and a probability of 0.1677. This probability value is greater than the 5 percent significance level, so that government capital expenditure does not have a significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period. A positive coefficient indicates that an increase in capital expenditure in the model is correlated with

an increase in the Gini Ratio, but this relationship does not yet have sufficient statistical evidence.

Theoretically, government capital spending is expected to reduce inequality by providing infrastructure and public assets that expand public access to economic facilities. Road infrastructure, networks, educational facilities, health care, and other public facilities can improve connectivity and open up economic activity opportunities for the community. These impacts are not automatic, as the benefits of capital spending depend on the location of development, the type of asset constructed, the quality of implementation, and the community groups benefiting from government investment. A public finance perspective positions government spending as an instrument that can be used to support development and equity, but its effectiveness is largely determined by the composition and quality of spending.

The positive trend obtained in this study aligns with the results of Ramdani (2024) . Using data from 34 provinces in Indonesia during 2007–2022, he found that capital expenditure had a positive effect on the Gini coefficient, while education had a negative effect on inequality. These findings suggest that increased capital spending may not necessarily result in immediate equality if the benefits of development are not distributed proportionally across social groups.

The results of this study are also in line with Putri (2024) who found that capital expenditure had no effect on income inequality in the Special Region of Yogyakarta Province during the 2011–2021 period. These findings demonstrate that changes in capital expenditure do not always result in significant changes in income distribution when the benefits of the expenditure have not been translated into increased economic opportunities for low-income groups. Research by Sutiono & Syafitri (2018) also shows that the relationship between capital expenditure and inequality can differ based on the source of the expenditure. Central government capital expenditure tends to reduce inequality, while regional budget capital expenditure tends to increase inequality in East Java.

The positive but insignificant coefficient in this study may indicate that the magnitude of capital expenditure is not yet a direct factor determining changes in income inequality in NTB. Increased capital expenditure does not necessarily provide equal economic benefits to all groups in society. Infrastructure that is more concentrated in areas with high economic activity has the potential to provide greater benefits to groups that already have access to economic activities. This condition may cause increases in capital expenditure not to be immediately followed by a decrease in the Gini Ratio.

Thus, the research results indicate that government capital spending has not been proven to be a significant determinant of income inequality in West Nusa Tenggara Province during the 2016–2025 period. The policy implication is not simply to increase the nominal capital spending, but to ensure that the allocation and implementation of development have a more equitable coverage of benefits. Prioritizing capital spending that

strengthens regional connectivity, access to basic services, and economic opportunities for low-income groups has more potential to support equality than increasing aggregate capital spending without considering the distribution of benefits.

The Effect of Average Years of Schooling on Income Inequality

The estimation results show that the Average Years of Schooling (RLS) measured in log(RLS) form has a coefficient of -0.155960 with a t-statistic value of -3.830432 and a probability of 0.0122. This probability value is smaller than the 5 percent significance level, so that RLS has a negative and significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period. The negative coefficient indicates that an increase in educational attainment is related to a decrease in the Gini Ratio. Because the RLS variable uses a logarithmic transformation while the Gini Ratio is in level form, a 1 percent increase in RLS is mathematically related to a decrease in the Gini Ratio of approximately 0.0015596 points, assuming other variables remain constant.

These results align with Human Capital Theory, which explains that education is an investment that can improve an individual's knowledge, skills, and productivity, thereby increasing the opportunity to obtain better employment and income (Becker, 1964) . Improved education can expand people's ability to enter jobs with higher productivity and remuneration. Improved distribution of educational opportunities can also expand access for community groups to productive economic activities, potentially narrowing income disparities. The negative relationship between RLS and the Gini Ratio in this study indicates that increased educational attainment in NTB is linked to improved income distribution.

The findings of this study are in line with Ashari et al (2024) found that education had a negative and significant effect on income inequality in 34 provinces in Indonesia during the 2019–2023 period. These results strengthen the argument that improving education can be a factor supporting income equality by improving the quality of human capital and economic opportunities. Ramdani (2024) also found that education, measured by average years of schooling, negatively affected the Gini coefficient in 34 provinces in Indonesia. These findings provide empirical support that increasing educational attainment is associated with reducing income inequality in the Indonesian regional context.

The results of this study are also consistent with research by Wirawan & Yasa (2026) on districts/cities in Bali Province for the 2014–2024 period. The study showed that education level had a negative and significant effect on income distribution inequality. The similarity in the direction of the research results suggests that education can be a factor contributing to income equality across regions in Indonesia. Differences in regional economic characteristics still allow for the magnitude of education's influence on inequality to vary across regions.

The situation in West Nusa Tenggara (NTB) provides important context for these

results. Research data shows that the life expectancy at birth (RLS) increased from 7.59 years in 2016 to 8.21 years in 2025, despite some fluctuations during the observation period. This increase indicates improvements in the educational attainment of the NTB population over the study period. Improved education can enhance people's capacity to obtain more productive employment, increase economic mobility, and expand access to income sources. These mechanisms can help reduce income inequality when the benefits of increased human capital are accessible to a wider segment of the population.

The significance of RLS in this study indicates that education has a relatively stronger position compared to the variables of inflation, TPT, and capital expenditure in explaining changes in income inequality in the research model. This result does not mean that education is the sole determinant of inequality, but indicates that the variation of RLS has the strongest statistical relationship among the variables tested partially. The model's coefficient of determination value of 0.810755 also indicates that the model as a whole is able to explain approximately 81.08 percent of the variation in the Gini Ratio, while the remainder is explained by other factors outside the model.

Thus, the research results indicate that increasing the Average Years of Schooling plays a role in reducing income inequality in West Nusa Tenggara Province during the 2016–2025 period. The policy implications that can be drawn are the need to maintain and expand policies to improve access and quality of education, especially for community groups with limited access to education. Education policies also need to be directed at increasing the relevance of skills to labor market needs so that increased years of schooling can be translated into increased productivity and better income opportunities.

The Simultaneous Effect of Inflation, TPT, Government Capital Expenditure, and RLS on Income Inequality

The simultaneous test results show an F-statistic value of 5.355180 with a probability of 0.047158. This probability value is smaller than the 5 percent significance level, so the null hypothesis is rejected. These results indicate that inflation, the Open Unemployment Rate, government capital expenditure, and Average Years of Schooling simultaneously have a significant effect on income inequality in West Nusa Tenggara Province during the 2016–2025 period.

The simultaneous significance indicates that income inequality in NTB cannot be understood through a single factor alone. Inflation is related to changes in people's purchasing power, the Open Market Index (TPT) relates to people's access to income through employment, government capital expenditure relates to the provision of infrastructure and public facilities, while the RLS reflects educational attainment and the quality of human capital. The interaction of these various factors can collectively shape the conditions of income distribution. These results are also in line with the theoretical framework of research that places macroeconomic conditions, labor markets, fiscal policy,

and human capital as factors related to income inequality (Becker, 1964) .
These results imply that policies to reduce inequality in NTB require a multidimensional approach. Improving educational attainment can be a priority, as the RLS was the only variable proven partially significant in this study. This policy still needs to be combined with price stabilization, improving the quality of job opportunities, and more equitable allocation of capital expenditures to address various aspects related to income distribution simultaneously. These findings provide an empirical basis for demonstrating that equality policies cannot rely solely on a single policy instrument.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The results of the study on the determinants of income inequality in West Nusa Tenggara Province for the period 2016–2025, it can be concluded that partially inflation, the Open Unemployment Rate (TPT), and government capital expenditure have no significant effect on income inequality, while the Average Years of Schooling (RLS) has a negative and significant effect on income inequality. The direction of the inflation and TPT coefficients is negative, while government capital expenditure is positive, but all three have not shown a significant effect at the 5 percent level. RLS has a negative and significant effect, which indicates that increasing educational attainment is related to a decrease in income inequality in NTB. Simultaneously, inflation, TPT, government capital expenditure, and RLS have a significant effect on income inequality with an F test probability value of 0.047158. The research model has an R-squared value of 0.810755, which indicates that the variables in the model together are able to explain 81.08 percent of the variation in income inequality, while the rest is explained by other factors outside the model.

Suggestion

Based on the research results, the West Nusa Tenggara Provincial Government needs to pay greater attention to improving access and quality of education because Average Years of Schooling has been shown to have a negative and significant effect on income inequality. Education policies can be directed at expanding access to education for low-income groups, increasing the sustainability of education, and strengthening the linkages between education and labor market needs so that increased educational attainment can result in more equitable economic opportunities. Price stabilization policies, improving the quality of employment opportunities, and allocating capital expenditures also need to be considered, although these three variables have not shown a significant effect partially in this study. Further research is recommended to use a longer observation period and a larger number of observations, as well as considering other variables that have the potential to influence income inequality, so that stronger results are obtained in explaining the dynamics of income inequality in West Nusa Tenggara Province .

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