International Journal of Economics Studies
ISSN 3063-3249
Volume 2 No. 3, 2025

Analysis of the Influence of Gross Regional Domestic Product Per Capita, Inflation, and Human Development Index on Regency/City Income Inequality in West Nusa Tenggara Province in 2018-2023

Alda Gusma Futri[1], Muhammad Alwi[2], Ida Ayu Suprapti[3]
[1,2,3] Universitas Mataram, Indonesia
Email: aldagsmftry@gmail.com, cacaalwi.97@unram.ac.id, putriunram@unram.ac.id

Article Info

Keywords:
GDP Per Capita, Inflation, HDI, Income Inequality.

ABSTRACT

This study aims to analyze the influence of Gross Regional Domestic Product Per Capita, Inflation, and Human Development Index on Regency/City Income Inequality in West Nusa Tenggara Province during 2018-2023. This research is a quantitative research with a descriptive analysis method. The data used is in the form of crosssections of 10 regencies/cities in West Nusa Tenggara Province and time series during 2018-2023. The data was processed by panel analysis using Common Effect Model regression through the Evies 12 program. The results of this study are that partially the variables of Gross Regional Domestic Product Per Capita have a negative and insignificant effect on income inequality, the inflation variable has a positive and insignificant effect on income inequality, and the Human Development Index variable has a positive and significant effect on income inequality. Meanwhile, simultaneously the research variables have an effect on income inequality. In this study, only 29.49% of income inequality was influenced by the variables of Gross Regional Domestic Product Per Capita, Inflation, and the Human Development Index, while the remaining 70.51% was influenced by other variables outside the model that were not used in the study. Based on the results of the study, it is influenced by economic growth and the improvement of the quality of human development which is not in line with income equity. Therefore, an inclusive economic policy is needed that focuses on equitable access to economic resources and opportunities, especially for low-income groups and disadvantaged areas. In addition, the government must ensure that the benefits of increasing HDI must be felt equally by all people in every district/city in West Nusa Tenggara Province so as not to widen income inequality.

Corresponding Author:
Alda Gusma Futri
Email: aldagsmftry@gmail.com

INTRODUCTION

Income inequality is one of the main challenges in global and regional economic development, as it has the potential to hinder economic growth, trigger social instability, and reduce the quality of sustainable development. In Indonesia, West Nusa Tenggara Province (NTB) is recorded to have a relatively high level of income inequality, especially between districts/cities. This is reflected in significant differences in economic, social, and infrastructure indicators in the region. This study aims to analyze the effect of Gross Regional Domestic Product (GDP) per capita, inflation, and Human Development Index (HDI) on regency/city income inequality in NTB in the 2018–2023 period.

Income inequality in NTB is influenced by various structural factors, including the unequal distribution of economic resources, limited access to infrastructure, and human development disparities. GDP per capita as the main indicator of economic growth does not always guarantee a reduction in inequality if income distribution is uneven. On the other hand, inflation can widen inequality because it has a heavier impact on the poor group whose spending allocation is focused on basic needs. Meanwhile, HDI, which reflects the level of human welfare, is expected to be able to reduce inequality through improving the quality of human resources (HR) and access to public services.

Previous studies have shown that the relationship between macroeconomic variables and income inequality is contextual. For example, an increase in GDP per capita can reduce inequality if accompanied by a policy of income redistribution, but it also has the potential to widen inequality if growth is enjoyed by only a few groups. Meanwhile, uncontrolled inflation can exacerbate inequality through the effects of uneven wealth effects. HDI as a multidimensional indicator is considered to play an important role in strengthening people's bargaining power through improving health education and economic participation.

In this study, several problems are formulated: first, how does GDP per capita affect regency/city income inequality in NTB in 2018–2023; second, how does inflation affect education; and three, how does HDI affect changes in education levels between districts/cities in NTB during this period? The purpose of this study was to analyze the relationship between GDP per capita and the level of social inequality as well as to evaluate the impact of inflation on changes in the Gini index.

Practically, the results of this research are expected to be considered for local governments in formulating more inclusive development policies such as optimizing budget allocation for strategic sectors such as infrastructure and agriculture; controlling inflation through fiscal policy; and increasing HDI through health education and vocational skills programs evenly throughout districts/cities.

Literature studies show that the relationship between these variables is non-linear where every 0.1 point increase in HDI is associated with a decrease in the Gini index of 0.02 for areas with good access to education and health, thus providing an overview of the dynamics of the relationship between macroeconomic variables and social inequality, especially in the context of West Nusa Tenggara.

International Journal of Economics Studies
ISSN 3063-3249
Volume 2 No. 3, 2025

METHOD

This study uses a quantitative approach with a descriptive and analytical research design. The data used in this study are secondary data obtained from the Central Statistics Agency (BPS) of West Nusa Tenggara Province and the Ministry of Social Affairs of the Republic of Indonesia. The data collected includes important variables such as Gross Regional Domestic Product (GDP) per capita, inflation, the Human Development Index (HDI), and the Gini index as an indicator of income inequality.

Population and Sample

The population in this study is all districts/cities in West Nusa Tenggara Province during the period 2018 to 2023. The sample was taken by purposive sampling, which is to select districts/cities that have complete data for all variables studied during the period.

Data Analysis Techniques

Data analysis was carried out using the panel regression method to model the relationship between independent variables (GDP per capita, inflation, HDI) and dependent variables (Gini index). The panel regression model was chosen because it can overcome the problem of heterogeneity between districts/cities and allows the analysis of the dynamics of changes over time.

The panel regression model can be expressed in the form of the following equation:

$$Gini_{it}=\beta_0+\beta_1\ PDRB_{it}+\beta_2\ Inflation+\beta_3\ IPM_{it}+\varepsilon_{it}$$

Where:

- $Gini_{it}$ is the Gini index in districts/cities i in year t,
- $GDPB_{it}$, Inflation, and IPM_{it} are each the values of GDP per capita, inflation, and HDI in districts/cities i in year t,
- β_0 is a constant,
- β_1, β_2, and β_3 are regression coefficients,
- ε_{it} is an error term.

Validity and Reliability Tests

Before conducting further analysis, a validity test is carried out to ensure that the measurement instrument can measure what should be measured. In addition, reliability tests are also carried out to ensure the consistency of measurement results over time.

Thus, this research method is designed to provide an in-depth understanding of the factors that affect income inequality in West Nusa Tenggara as well as provide policy recommendations based on empirical findings.

International Journal of Economics Studies
ISSN 3063-3249
Volume 2 No. 3, 2025

RESULTS AND DISCUSSION

The results of this study show that there is a significant influence of the Human Development Index (HDI) on income inequality in West Nusa Tenggara Province, while Gross Regional Domestic Product (GDP) per capita and inflation do not show a significant influence.

Partial Test

In the partial test, the variable GDP per capita has a calculated t-value of -0.810162, which is smaller than the t table 2.003241 with a p-value of 0.4213, so it can be concluded that the partial variable of GDP per capita does not have a significant effect on income inequality. The inflation variable also showed similar results with a calculated t-value of 0.098369 and a p-value of 0.9220, which means that inflation did not have a significant effect on the dependent variable.

In contrast, the HDI has a calculated t-value of 4.774094 and a p-value of 0.0000, much smaller than the significance level of 0.05; this shows that HDI has a significant effect on income inequality.

Simultaneous Tests

Simultaneous tests using the F test resulted in a Fcal value of 7.808118 which is greater than Ftabel (2.769431), with an F-statistical probability of 0.000192 < 0.05; This indicates that simultaneously all independent variables in the model have a significant influence on the dependent variables.

Regression Models in Research

Regression models are statistical tools used to analyze the relationship between one dependent variable and one or more independent (independent) variables. In the context of this study, regression models are used to understand how factors such as Gross Regional Domestic Product (GDP) per capita, inflation, and Human Development Index (HDI) affect income inequality in West Nusa Tenggara Province.

Types of Regression Models

In this study, the regression model used is the Common Effect Model (CEM). CEM is one of the approaches in panel data analysis that assumes that the individual effects of each district/city are not taken into account separately. In other words, this model assumes that all observation units share the same intercept but have different slope coefficients.

Regression equations

The regression equations obtained from the analysis can be written as follows:

$Y=0.007403-1.37E-07X1+0.000257X2+0.005079X3+e$

Where:

- Y: Income inequality (Gini index).
- X1: GDP per capita.

- X2: Inflation.
- X3: IPM.
- e: Term or residual error.

Coefficient Interpretation

Each coefficient in the equation has a specific meaning:

1. Constant ($\beta 0=0.007403$): This shows the value of income inequality when all independent variables are assumed to be zero; although this is practically unlikely.
2. GDP coefficient per capita ($\beta 1=-1.37E-07$): The negative coefficient indicates that the increase in GDP per capita is related to a decrease in income inequality, but the effect is not significant based on the results of the previous t-test.
3. Inflation Coefficient ($\beta 2=0.000257$): The positive coefficient indicates that inflation is associated with increased income inequality; however, it is also not statistically significant.
4. HDI coefficient ($\beta 3=0.005079$): Positive and significant coefficients indicate that increasing HDI contributes to improving people's welfare and can help reduce income inequality in NTB.

Significance Test

Significance tests are performed to determine whether each coefficient differs from zero:

1. The t-test was performed to evaluate the significance of each independent variable to the dependent variable.
2. If the p-value < α (usually $\alpha=0.05$), then the coefficient is significant.

Simultaneous tests using the F test were also performed to assess whether all independent variables together significantly affected the dependent variables.

Standard and R-squared Errors

In addition, it is also important to pay attention to the standard errors of the estimation as well as the R-squared value:

- Standard Error provides information about how accurate the estimated coefficient is.
- R-squared describes the proportion of variations in dependent variables that can be explained by variations in independent variables; the closer the number one means the model better describes the data.

Thus, through this regression analysis, we can gain insight into what factors have the most influence on income inequality in West Nusa Tenggara and how public policies can be directed based on these findings to achieve more equitable and inclusive economic development for all levels of society in the area.

The discussion in this study focuses on the analysis of the results obtained from the regression model and its implications on income inequality in West Nusa Tenggara Province. The results of the analysis showed that the Human Development Index (HDI) had a significant influence on income inequality, while Gross Regional Domestic Product (GDP) per capita and inflation did not show a significant influence.

The Effect of HDI on Income Inequality

The results indicate that increasing HDI contributes positively to reducing income inequality. This is in line with development theory that the quality of human resources, reflected through education, health, and social welfare, can increase individual productivity and promote inclusive economic growth. With increasing public access to education and health services, it is hoped that there will be an increase in people's work skills so that they can increase their income.

This condition also reflects the importance of government policies in improving the quality of education and health as an effort to reduce the level of inequality. Programs such as scholarships for underprivileged students or the improvement of health facilities in remote areas are strategic steps to improve HDI while reducing social disparities.

GDP Per Capita

Meanwhile, the GDP per capita variable did not show a significant influence on income inequality. This may be due to the fact that economic growth reflected in GDP is not always evenly felt by all levels of society. Economic growth is often concentrated in specific sectors without having a direct impact on low-educated groups or those living in remote areas.

This phenomenon emphasizes the need for a more inclusive approach to development policies so that the benefits of economic growth can be felt by all sections of society. Revenue redistribution policies through progressive taxes or social assistance programs can be an alternative to ensure that the results of economic growth can be enjoyed fairly.

Inflation

Inflation was also found to have no significant influence on income inequality in the context of this study. Although inflation is generally considered to have a negative impact on the poor because the price of basic necessities rises faster than their wage increases, the effect does not appear to be strong enough to affect the overall level of inequality over the study period.

This may be due to the existence of a price adjustment mechanism or government intervention in maintaining the stability of the price of basic goods so that the impact of inflation can be minimized for vulnerable groups.

Policy Implications

From the results of the discussion, several policy recommendations can be proposed:

1. Improving the Quality of Education: The government needs to focus on quality education programs, especially in disadvantaged areas so that all levels of society have access to education.
2. Health Programs: Strengthen the health care system by providing adequate medical facilities and reaching remote areas.
3. Income Redistribution: Implementing fiscal policies such as progressive taxes to support the redistribution of wealth to achieve social justice.
4. Local Economic Development: Encourage investment in local sectors to achieve more equitable economic growth and direct benefits to local communities.

Thus, understanding the factors that cause income inequality is very important for the formulation of long-term development strategies to create common prosperity and reduce disparities between regions in West Nusa Tenggara Province.

CONCLUSION

Based on the formulation of the problem, hypothesis, as well as the results and discussions that have been presented, conclusions can be drawn regarding the influence of Gross Regional Domestic Product (GDP) per capita, inflation, and the Human Development Index (HDI) on income inequality in districts/cities of West Nusa Tenggara Province in 2018-2023. First, the Gross Regional Domestic Product per capita partially has a negative and insignificant effect on income inequality in districts/cities of West Nusa Tenggara Province. This suggests that although the increase in GDP per capita should reduce income inequality, in the context of this study this effect was not shown to be significant. Second, inflation also does not show a significant effect on income inequality. This indicates that fluctuations in the prices of goods and services do not have a direct impact on the distribution of income between groups of people in the region. Finally, the Human Development Index has a significant positive influence on reducing income inequality. This confirms the importance of improving the quality of life through education and health as a key factor in reducing socio-economic disparities in West Nusa Tenggara Province during the research period.

REFERENCES

Amruddin, et al. (2022). *Quantitative research methodology* (Fatma Sukmawati, Ed.). Pradina Pustaka Group.

Ariesta, L. C. O. W., Sodik, J., & Nuryadin, D. (2022). Determinants of Inequality in Regency/City Income Distribution and Spatial Linkage: (Case Study: DI Yogyakarta in 2013-2020). *SIBATIK*

JOURNAL: Scientific Journal of Social, Economic, Cultural, Technological, and Educational, *1*(5), 737-754.

Athallah, T. P., & Bintoro, N. S. (2023). The Influence of GDP, Human Development Index, and Government Expenditure on Regional Inequality. *Journal of Development Economic and Social Studies*, *2*(2)

Basuki, A. T. (2021). Panel Data Analysis in Economic and Business Research (Equipped with the Use of Eviews). *Yogyakarta: King of Grafindo*.

BPS West Nusa Tenggara Province. (2024). *Human Development Analysis of West Nusa Tenggara Province 2023* (Vol. 7). BPS West Nusa Tenggara Province.

BPS West Nusa Tenggara Province. (2024). *West Nusa Tenggara Province Consumer Price Index 2023*. BPS West Nusa Tenggara Province.

BPS West Nusa Tenggara Province. (2024). *West Nusa Tenggara Province in 2024* (Vol. 44). BPS West Nusa Tenggara Province.

BPS West Nusa Tenggara Province. (2023). *West Nusa Tenggara Province in 2023 Figures*. BPS West Nusa Tenggara Province.

BPS West Nusa Tenggara Province. (2024). *Gross Regional Domestic Product of West Nusa Tenggara Province by Business Field 2019-2023* (Vol. 10). BPS West Nusa Tenggara Province.

Chusainy, M. N., Priyono, T. H., Zainuri, Z., Al Kadzim, M., Sjafruddin, S., & Prianto, F. W. (2023). The Effect of Capital Expenditure, Inflation, and Human Development Index on Income Disparity in the Bakorwil V Area, East Java. *Journal of Regional Planning and Development*, *1*(2)

Dionysius Desembriarto, S. E. (2023). *Inequality of Economic Development Between Regencies/Cities in the Special Region of Yogyakarta*. Diandra Creative. https://ipusnas2.perpusnas.go.id/

Esha, A. A. (2024). *Analysis of the Influence of Per Capita GDP, Human Development Index (HDI), Poverty Rate, Government Spending, Covid 19 on Income Inequality in East Kalimantan Province in 2015-2022* (Doctoral dissertation, Islamic University of Indonesia).

Fatonah, A. A., & Sebayang, A. F. (2024). Human Development Index, General Allocation Fund, and Labor Force on Income Inequality. *Journal of Research in Economics and Business*, 87-96.

Friawan, D., & Kurnia, Y. E. (2021). The Covid-19 Pandemic and the Threat of Inflation in Indonesia. *CSIS Commentaries, CSIS Comme*, 1-11.

Hariyati P, L. Ayu. A. C. Hera. A. A. Dwi. A. and I. Wati. A. (2017). *Inequality in the development of "Potpourri of Social Reality on Development in Indonesia."* Media Nusa Creative. https://ipusnas2.perpusnas.go.id/

Hartini, N. T. (2017). The Effect of GDP per Capita, Investment and CPI on Income Inequality between Regions in Yogyakarta Province in 2011-2015. *Journal of Education and Economics*, *6*(6)

Ihsan, R., Aimon, H., & Satrianto, A. (2019). Analysis of the Causality of Inflation, Income Inequality, and Economic Growth in Indonesia. *Journal of Ecogen*, *1*(3), 701.

Janah, M. (2022). Analysis of the influence of the per capita GDP level, human development index, and foreign investment on income inequality in Indonesia for the period 2019-2021. *Profit: Journal of Management, Business and Accounting*, *1*(4)

Julianengsih, E., Irawan, E., & Cita, F. P. (2019). Analysis of income inequality in NTB Province. *Nusantara Journal of Economics*, *1*(01), 38-43.

Kusuma, D. S. D., Sarfiah, S. N., & Septiani, Y. (2019). Analysis of the Influence of Gross Regional Domestic Product (GDP), Inflation, and Human Development Index (HDI) on Income Inequality in the Special Region of Yogyakarta in 2011-2017. *DINAMIC: Directory Journal of Economics*, *1*(3).

Kusumastuti, A., Khoiron, A. M., & Achmadi, T. A. (2020). *Quantitative research methods*. Deepublish.

Ni'mah, S. (2023). Analysis of the Influence of GDP Per Capita, Sector Income (Industry and Agriculture) and Human Development Index in the Field (Knowledge and Health) on Income Inequality in Java Island in 2015-2021.

Permana, H., & Pasaribu, E. (2023). The Effect of Inflation, HDI, UMP and GDP on Poverty on the Island of Sumatra. *Scientific Journal of Management, Economics, & Accounting (MEA), 7*(3)

Pramesti, D. A. D. G., & Yasa, I. N. M. (2019). The Influence of Investment and Inflation on Economic Growth and Inequality in Income Distribution in Klungkung Regency. *E-Journal of Unud* Press, *8*(11), 2562-2590.

Center for Apparatus Training Studies and Education IV, State Administration Institute (2010). *Quantitative research data processing using EViews*. Field of Policy Studies and State Administration Innovation.

Rangkuty, D.M. Lubis, P.H. Herdianto, & Zora, M.M. (2022). *Inflation Theory "Case Study of Household Actors in Klambir Village Five Gardens Before and During the Pandemic."* CV Budi Utama.

Rijoly, J. C. (2023). *The Reality of Income Inequality in Ambon City: An Empirical Study*. CV. Adanu Abimata.

Rizkia, C. T., & Andriyani, D. (2022). Analysis of income inequality in the eastern regions of Aceh Province. *Journal of Applied Economics*, *1*(2), 38-48.

Sugiyono. (2013). *Quantitative, Qualitative, and R&D Research Methods*. Alfabeta, Bandung.

Sulfadli, SE., M. S. (2022). *Economic Development Disorders*. Trail of Literature. https://ipusnas2.perpusnas.go.id/

Widyawati, D., & Muchlisoh, S. (2022). Poverty Map as a Portrait of Small Area Income Inequality in Yogyakarta City. *Indonesian Journal of Economics and Development,* 22(2), 162–178.

Wahyuni, S., & Andriyani, D. (2022). The influence of inflation, population and economic growth on income inequality in the province. *Unimal Regional Economic Journal*, *5*(1)

Wicaksono, A. (2022). *Educational Research Methodology: A Brief Introduction*. Garudhawaca.

Wirda Z., R., Fakhruddin, F., & Fitriyani, F. (2020). Provincial Income Inequality in Indonesia: Panel Data Analysis. *Indonesian Journal of Economics and Public Policy*, *7*(1), 102–117.

Wijayanti, E. S., & Aisyah, S. (2022). The Influence of Economic Growth, Foreign Investment, Inflation, and Trade Openness on Inequality in Indonesia in 2000-2020. *Economics: Journal of Economics and Business*, *6*(2), 534-540.