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Income inequality in Indonesia and its influencing factors

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Abstract

This study aims to discuss and analyze the effect of economic growth, HDI, UMP, and poverty on both partial and general income inequality, as well as to discuss the policies that have been implemented throughout the economic development process. This study uses secondary data published by the Central Bureau of Statistics (BPS) in the form of panel data consisting of cross-section and time series data from 34 provinces in Indonesia from 2015 to 2022. In this study, multiple linear regression tests were used, processed with statistical tools, namely EViews10 software. The findings in this study are: (1) Economic growth has a negative and significant effect on income inequality in Indonesia; (2) The Human Development Index has a negative and significant effect on income inequality in Indonesia; (3) The provincial minimum wage has a negative and insignificant effect on income inequality in Indonesia; (4) Poverty has a positive and significant effect on income inequality in Indonesia; (5) Policies that have been implemented to reduce income inequality include education policy, fiscal (economic) policy, social policy, and infrastructure development policy.

Keywords: Economic growth, Human Development Index (HDI), income inequality, poverty, provincial minimum wage.

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1. Introduction

Income inequality is one of the indicators to measure the success of economic development. Prof. Dudley Seers (British economist) in Todaro and Smith [1] criticized the economic development strategy before the 1970s, which was more oriented towards high economic growth. He stated that if poverty, unemployment and inequality show a decline, then there is no need to hesitate in declaring the country's development a success. But if one or two or all three of these indicators worsen, then it would be very strange to call it "successful development," even though per capita income has increased manifold.

Economic (income) inequality as measured by the parameter "Gini ratio" (abbreviated as GR) still remains a serious problem in the process of achieving prosperity and welfare. It is not surprising that "reducing inequality" is one of the 17 sustainable development goals. It is targeted that by 2030, inequality will be reduced to a Gini ratio of 0 (zero). Inequality is one of the biggest challenges in realizing human rights. The impact of inequality on society can be devastating, as it creates poverty, marginalization, and ultimately leads to conflict.

A 2015 report by the International Monetary Fund (IMF) revealed that widening income inequality is a major challenge. The gap between the rich and poor in developed countries is at its highest in decades. Inequality trends are more mixed in emerging market and developing countries (EMDCs), with some countries experiencing a decline in inequality, but widening gaps in access to education, healthcare, and finance still persist [2].

The World Inequality Report 2022, a four-year research project organized by economists Lucas Chancel, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman, shows that "the world is characterized by very high levels of income inequality and extreme levels of wealth inequality" and that the gap "currently appears to be as large as it was at the height of western imperialism in the early 20th century". According to the report, the bottom half of the population owns 2% of global wealth, while the top 10% own 76% of global wealth. The top 1% own 38% [3-5].

Data from the *World Development Indicators* for 2022 reveals that most countries in Latin America and Africa are in the medium inequality (Gini Ratio (GR) > 0.40) and high inequality (GR > 0.50) categories. Countries such as Brazil, Colombia, South Africa, Botswana, and Zambia fall into the high inequality category. Countries in the moderate inequality category include Vietnam, Mexico, Poland, the United States, Argentina, Russia, Uruguay, and Indonesia (GR 0.31 - 0.49). Meanwhile, countries classified as low inequality (GR < 0.30) are mostly found in continental European countries, such as Austria, Germany, Denmark, Norway, Slovenia, Sweden, and Finland. Finland, which has been named the happiest country six times in a row (since 2017), is categorized as a low inequality country with a GR of 0.28 (see https://wdi.worldbank.org/table/1.3).

Indonesia is one of the countries categorized as having moderate inequality, with a Gini ratio of 0.38. Indonesia's development results from 2015 until now are still characterized by moderate inequality. The GR coefficient fluctuates between 0.34 and 0.39. The highest GR is in DI Yogyakarta Province (0.46), and the lowest GR is in Bangka Belitung Islands Province. Of the 34 provinces in Indonesia, only 3 provinces (8.8%) are classified as low inequality (GR < 0.3) while the rest (91.2%) are classified as moderate inequality provinces with GR of 0.30 - 0.46.

Variations in inequality between provinces occur due to various factors. Economic factors are often considered the main cause of social inequality. This inequality arises because of uneven economic development. This uneven development is due to differences between regions. Factors that cause inequality include the varying number and quality of demographics, uneven educational conditions, lack of employment, and low wages earned by workers. Poverty is an internal factor that is often the main cause of economic and social inequality. People living in poverty tend to have fewer opportunities in terms of education, health, and employment. The existence of globalization has led to an economy that only grows in a few regions, coupled with the economic practice of capitalism that causes the rich to get richer and the poor to get poorer.

Income inequality can be caused by economic growth [6]. Economic growth is an increase in output over time, which is an assessment in measuring the success of development in a country. There is a relationship that explains that when economic growth increases, income inequality increases and vice versa [7]. The focus of economic development in a short period of time is more aimed at increasing economic growth, which causes income inequality. Meanwhile, economic development that is oriented towards income equality requires a relatively long time to achieve economic growth [8].

The problem of poverty and inequality is a persistent problem. In fact, there have been many poverty reduction programs carried out by the government, but they have not yet brought significant changes. Many poverty reduction programs have been implemented in various countries. The development strategy developed by the Indonesian people has been based on high economic growth. This high economic growth was apparently not followed by equal distribution of income to all groups of society [9].

Looking at BPS data for 2023, it is revealed that in provinces with very high economic growth, such as North Maluku Province (22.94%), Central Sulawesi Province (15.17%), and Papua Province (8.97%), income inequality is classified as moderate. Whereas in provinces with very low economic growth (less than 2.50%), such as West Papua province (2.01%) and West Sulawesi province (2.30%), income inequality is classified as moderate with GR of 0.38 and 0.37, respectively, see Table 1.

Poverty can also affect income inequality [10]. Poverty causes differences in the distribution of society so that when poverty is not reduced, it causes inequality to increase [11]. BPS data in 2023 published poverty in 34 provinces. Almost 50% of the 34 provinces have a proportion of poor people that exceeds the national level (10.30%). The proportion of poor people is highest in Papua Province (26.80%), West Papua (21.43%), and East Nusa Tenggara Province (20.23%). Income inequality in these three provinces is classified as moderate, with GR of 0.39, 0.38, and 0.34, respectively. Meanwhile, provinces with low poverty proportions (<5%), such as Bali (4.53%), Bangka Belitung Islands, DKI Jakarta, and South Kalimantan (4.61% each) have low and moderate inequality.

In provinces with high HDIs (over 80), such as DKI Jakarta (81.65) and Yogyakarta (80.64), income inequality is classified as moderate with higher GRs of 0.41 and 0.46, respectively. Meanwhile, in the provinces with the lowest HDI, such as Papua Province (61.39) and West Papua Province (65.89), income inequality is moderate. An important factor in creating inequality is the variation in individual access to education (*Becker, Gary Murphy, Kevin M., 2007).* Education, especially in areas of high labor demand, creates high wages for the educated. Improvements in education can increase and then decrease income growth and inequality [12].

The Asian Development Bank [13] reports that high and rising inequality is a factor that inhibits economic growth. High inequality can lead to social conflicts, fragile community ties, labor strikes, high crime rates, and even a loss of trust in government policies as people become apathetic. This condition will have a negative impact on the development process. If there is no effort to improve policies, it will become a "vicious circle". Unqualified growth will lead to rising inequality, and high inequality will disrupt the process of sustainable economic growth. With low economic growth, the hope of becoming a country that is able to break out of the *Middle Income Trap (MIT)* is increasingly remote.

In addition to economic growth and HDI affecting income inequality, provincial minimum wages also impact income inequality *[14]*. Referring to the Provincial Minimum Wage (UMP), from the period 2022 to 2027, the wage earned by workers increased every year, although the amount of UMP varies between provinces due to the progress of development and economic growth achieved. The amount is influenced by economic growth and inflation in each province. Until 2022, the highest UMP is in DKI Jakarta Province (Rp. 4,641,854), while the lowest UMP is in Central Java Province (Rp. 1,812,935). Inequality in these two provinces is classified as moderate inequality, with Gini Ratios (GR) of 0.41 and 0.37, respectively; see *Table 1*.

Income inequality is one of the unresolved issues to date. Income inequality across provinces can be divided into low and medium inequality. There are many factors that cause these differences. Based on the facts and descriptions above, there are inconsistencies in the relationship between economic growth, poverty, HDI, and wages with income inequality in various provinces in Indonesia, so it is interesting to investigate the extent to which economic growth, poverty, HDI, and wages influence changes in income inequality in Indonesia. Furthermore, what policies have been implemented to reduce inequality as one of the 17 sustainable development goals to achieve the SDGs target in 2030?

Table 1.
Gini Ratio, Economic Growth, HDI, UMP and Poverty in Indonesia
Indonesia by Province, Year 2022

No.	Province	GR	PE (%)	HDI	UMP (Rp.)	KEM (%)
1.	Aceh	0.291	4.21	72.8	3.166.460	14.75
2.	North Sumatra	0.326	4.73	72.71	2.522.610	8.33
3.	West Sumatra	0.292	4.36	73.26	2.512.539	6.04
4.	Riau	0.323	4.55	73.52	2.938.564	6.84
5.	Jambi	0.335	5.13	72.14	2.698.941	7.70
6.	South Sumatra	0.330	5.23	70.9	3.144.446	11.95
7.	Bengkulu	0.315	4.31	72.16	2.238.094	14.34
8.	Lampung	0.313	4.28	70.45	2.440.486	11.44
9.	Kep. Bangka Belitung	0.255	4.4	72.24	3.264.884	4.61
10.	Riau Islands	0.325	5.09	76.46	3.050.172	6.03
11.	DKI Jakarta	0.412	5.25	81.65	4.641.854	4.61
12.	West Java	0.412	5.45	73.12	1.841.487	7.98
13.	Central Java	0.366	5.31	72.79	1.812.935	10.98
14.	DI Yogyakarta	0.459	5.15	80.64	1.840.916	11.49
15.	East Java	0.365	5.34	72.75	1.891.567	10.49
16.	Banten	0.377	5.03	73.32	2.501.203	6.24
17.	Bali	0.362	4.84	76.44	2.516.971	4.53
18.	West Nusa Tenggara	0.374	6.95	69.46	2.207.212	13.82
19.	East Nusa Tenggara	0.340	3.05	65.9	1.975.000	20.23
20.	West Kalimantan	0.311	5.07	68.63	2.434.328	6.81
21.	Central Kalimantan	0.309	6.45	71.63	2.922.516	5.22
22.	South Kalimantan	0.309	5.11	71.84	2.906.473	4.61
23.	East Kalimantan	0.317	4.48	77.44	3.014.497	6.44
24.	North Kalimantan	0.270	5.34	71.83	3.016.738	6.86
25.	North Sulawesi	0.359	5.42	73.81	3.310.723	7.34
26.	Central Sulawesi	0.305	15.17	70.28	2.390.739	12.30
27.	South Sulawesi	0.365	5.09	72.82	3.165.876	8.66
28.	Southeast Sulawesi	0.366	5.53	72.23	2.710.596	11.27
29.	Gorontalo	0.423	4.04	69.81	2.800.580	15.51
30.	West Sulawesi	0.362	6.22	62.96	1.650.000	11.90
31.	Maluku	0.306	5.11	70.22	2.619.313	16.23
32.	North Maluku	0.309	22.94	69.47	2.862.231	6.37
33.	West Papua	0.384	2.01	65.89	3.200.000	21.43
34.	Papua	0.393	8.97	61.39	3.561.932	26.80
	Indonesia	0.34	5.76	71.97	2.729.463	10.30

Source: BPS, Statistics Indonesia, Year 2023
Description: GR = Gini Ratio; PE = Economic Growth;
HDI = Human Development Index; UMP = Provincial Minimum Wage;
KEM = Poverty

2. Literature Review

2.1. Income Inequality

Income inequality is the unequal distribution of people's income from total national income between different households in a region. The impact of income inequality is economic inefficiency, weakening social stability and solidarity, and can be seen as unfair in cases of extreme inequality [1].

In Myrdal's income distribution theory, it is argued that economic development is the cause of inter-regional income inequality in society, where the rich become richer and the disadvantaged become more. The cause of income inequality in developing countries is a stronger backwash effect than spread effects on economic activity. Meanwhile, Kaldor's theory states that there is a trade-off where if you choose high economic growth, it will be accompanied by high income, or choose an equal distribution of income but followed by slow economic growth [15].

One measure of income inequality is the Gini ratio. The Gini ratio is a measure that is often used to look at income inequality more deeply, being able to see a multidimensional context to measure welfare and see inequality in the distribution of welfare between individuals in society from the aspects of education, health, and others [16]. The Gini ratio is a measure of aggregate income inequality that ranges from 0 to 1. A Gini index of 0 represents perfect equity, while 1 represents perfect inequality in society [1].

Calculating the Gini index can be done by comparing the diagonal area and the Lorenz curve, divided by the area of the triangle below the diagonal. The Lorenz curve is a curve that can be used as a reference to see whether or not there is equal distribution of income. The location of the Lorenz curve is in a square; the vertical side shows the cumulative percentage of national income, while the horizontal side shows the cumulative percentage of the population. If the position of the Lorenz curve is close to the diagonal axis or straighter, the distribution of national income is defined as equal. However, if the Lorenz curve moves away from the diagonal axis or shows a curve, the distribution of national income is unequal. There are categories in the Gini index for income inequality, ranging from 0.50 - 0.75 high inequality. Meanwhile, for income inequality ranging from 0.20 to 0.35, the country's income distribution is relatively even [1].

2.2. Economic Growth

Economic growth describes the dynamics of economic activity over a certain period of time in a region. Economic growth is an indicator in assessing whether or not the economic conditions in a region are good, either within the scope of the country or region. Associated with an increase in population income, which is reflected in an increase in per capita income, if it is not accompanied by a decrease in income inequality, it is suspected that the increase in per capita income is only felt by the rich while the poor do not feel it, Jhingan [15]. The components of economic growth are (1) capital accumulation consists of new investments such as physical equipment, land, and human resources obtained by increasing education, health, and employment opportunities. (2) Population growth has implications for labor force growth. (3) technological progress, namely new techniques in completing tasks [1].

The development of the theory of economic growth began with the classical figures, namely Adam Smith, David Ricardo, and Robert Malthus, in their idea that the focus of economic growth from the capital side is very important in order to balance growth. While the development of neoclassical economic growth theory began with the Solow-Swan theory, with an explanation of economic growth in the long term due to the development of factors of production, namely an increase in capital, labor, and technology [17]. After that, the endogenous growth theory by Paul Romer and Robert Lucas explained that economic growth factors come from within rather than external things, such as the production process system [1].

Economic growth can be measured through Gross Domestic Product (GDP), which is the total income earned by each individual in a country's economy [17]. The rate of economic growth is observed from the percentage change in the value of GDP in a country and the percentage of GRDP in a region [18]. In the relationship between economic growth and income distribution, it is explained that during the early stages of economic growth, it is often accompanied by a worsening income distribution; however, in the later stages, the income distribution improves [1]. The relationship between economic growth and income inequality indicates that economic growth can increase income inequality if growth is driven by a faster increase in the income of the rich compared to the poor. Economic growth can exacerbate income inequality if the growth benefits capital owners more than laborers. Economic growth is often centered on capital-intensive sectors. However, economic growth can also reduce inequality if the economic activities that support it are sectors that benefit the middle and lower-income groups, such as agriculture or labor-intensive manufacturing [19].

2.3. Human Development Index

Human capital formation is defined as the process of acquiring and improving the quality of human beings so that they have the skills, education, and experience for economic and political development [15]. Human capital can help increase the production of goods and services obtained through education and on-the-job training programs [17]. The Human Development Index (HDI) is a measure of the extent of human development in a region or country [20]. According to the United Nations Development Program (UNDP), HDI is a composite index to assess the average achievement of human development with three basic aspects, namely health, education, and living standards. In health, life expectancy indicators are used, from education, average years of schooling, and literacy rates are used, and from expenditure, per capita expenditure indicators are used. In HDI, the range of numbers is 0 to 100; if the HDI is close to the value of 100, it reflects that human development in the area is good. The HDI value categories introduced by UNDP are as follows:

a. HDI< 50 can be interpreted as low
b. $50 \leq$ HDI< 80 can be interpreted as medium or moderate
c. HDI≥ 80 can be interpreted as high

The human development index in a region shows the general welfare of the community, so that improvements in the aspects of education, health, and community income can reduce income inequality [21]. Changes in human capital are a fundamental factor in reducing income inequality. The human capital theory states that human capital has an impact on economic growth that reduces income disparity because education can help increase labor productivity [22]. An increase in

HDI in one region that is not followed by an increase in HDI in other regions can lead to an increase in income distribution inequality [23].

2.4. Wage

The minimum wage is set by the government each year and is enforced from the beginning of the year. In Indonesia, the minimum wage is set by the President at the provincial level (called the Provincial Minimum Wage/UMP) and by the Governor at the Regency/City level (called the Regency/City Minimum Wage or UMK). Wages are defined as compensation for services obtained by workers in employment relationships, in money or goods, bound by work agreements. The wages received are used to meet their needs. Economically, wages are payments for services in the form of labor or mental services provided by workers to employers [24]. Meanwhile, the provincial minimum wage is defined as a wage that has been regulated as a regional minimum, sectoral, and sub-sectoral. In the provincial minimum wage, there are allowances and basic wages. Case and Fair [25] explain that the provincial minimum wage is the minimum wage allowed for companies to pay their employees. The minimum wage policy is not only to increase morale and work productivity, but also to minimize the income gap between low-income groups. The higher the minimum wage, the smaller the income inequality.

The amount for the natural wage rate is set based on the economic development performance of the local area such as increased economic growth and local inflation. Natural wages rise proportionally to the standard of living of the community and so do other prices such as wages or labor prices, influenced by demand and supply, so that in equilibrium conditions in theory, workers get wages equal to the employee's contribution to the production of goods and services. The efficiency wage theory explains wage rigidity in addition to the provincial minimum wage law and the formation of labor unions [17]. First, high wages make workers productive. The wage affects the efficiency of workers, which explains the failure of firms to cut wages even though there is a larger labor supply. Thus, wage cuts reduce workers' productivity and firm profits. Second, high wages reduce labor turnover. When the company pays high wages, the company will reduce the frequency of workers leaving the company and also reduce the company's time to train and attract new workers. Third, the quality of the workforce is highly dependent on how the company pays workers. Fourth, high wages also increase the effort of workers.

The existence of a provincial minimum wage given to the community can increase people's purchasing power and consumption and can increase the demand for goods and services. So that it has implications for improving the economy of a region so as to reduce income inequality [26]. Determining the amount of provincial minimum wage in a region is very important because the provincial minimum wage can reduce the inequality gap in countries because the provincial minimum wage is able to increases the income level of the poor so as to reduce the inequality gap between the poor and high-income people. The imposition of provincial minimum wage rates can be considered by policymakers in a country but must be considered carefully, considering that provincial minimum wages can directly reduce purchasing power, employers' income, and increase unemployment [27].

2.5. Poverty

Poverty is the condition of people's inability to meet the minimum standard of living for a decent life [1]. The condition of poverty in a region illustrates how the level of welfare of the people who live in that country or region [28]. There are indicators of poverty as follows [29]:

1. Lack of food, clothing, and even inadequate housing conditions,
2. Limited to productive tools and land ownership,
3. Lack of reading and writing skills,
4. Less on welfare and security,
5. Social and economic vulnerability
6. Powerless have low bargaining power
7. Limited access to knowledge

Poverty can generally be divided into two types [30]:

1. Absolute poverty, which is determined by the lack of fulfillment of minimum standards such as food, clothing, shelter, education, and health needed to survive and work. The value of the minimum standard needs is known as the poverty line. People with incomes below the poverty line are considered poor.
2. Relative poverty is the condition of people who are poor due to development policies that have not been able to cover all levels of society or the standard of living set by the surrounding community.

Poverty can cause income inequality between the rich and the poor, making the situation more unequal. When poverty is not reduced, it results in more unequal income distribution in developing countries. So that reducing poverty is very important in order to be able to reduce income inequality among the community more evenly [11].

The relationship between poverty and income inequality is very close. Quantitatively, the number of poor and vulnerable to poverty is far greater than the number of rich people. In addition to their high income, the rich have more assets and have the potential to increase their income and assets. Meanwhile, the poor have limited asset ownership due to their low income and have the potential to become poorer if they do not receive stimulus from the government. More poor people than rich people make it a tough challenge in the development process of reducing income inequality. Pro-poor, pro-job and pro-growth policies are needed [19].

3. Empirical Study

Several previous studies examining the effect of economic growth on income inequality are discussed in this study. In Nadya and Syafri [31], through the regression method, economic growth has a positive and significant effect on income inequality in Indonesia because the economic sector of each region has differences and experiences ups and downs in development for each year. Meanwhile, research by Istiqamah et al. [32] through the regression method of economic growth has a negative and significant effect on income inequality because economic growth is not utilized in increasing regional spending to create jobs. Then, Alamanda [33], which examines 50 countries with panel data regression that economic growth has a positive and significant effect on income inequality, especially in lower-middle-income countries when compared to high-income countries.

There is also research on the effect of economic growth and HDI on income inequality. Research by Arif and Arif and Wicaksani [34] found that economic growth has no significant effect on income inequality in East Java. However, HDI has a positive and significant effect on income inequality, it is suspected that an increase in life expectancy makes labor have high productivity, but only in the center of economic activity. Meanwhile, Putri et al. [35], using path analysis, found that economic growth has a positive and significant effect on income inequality in Indonesia because the increasing economic growth of a region that is not followed by increasing economic growth in other regions causes income inequality. Meanwhile, the HDI variable has a positive and significant effect because the uneven HDI value between provinces causes income inequality. Research by Sarkodie and Adams [36] in Sub-Saharan Africa found that human development can reduce income inequality because it is related to poverty reduction, because it has better human capital, so that inequality can be reduced. There is also research by Kusuma et al. [21] that HDI has a negative and significant effect on income inequality in the Special Region of Yogyakarta due to an increase in health indicators, education, and decent living standards so that an increase in HDI can reduce income inequality.

Other studies have also examined the effect of provincial minimum wages on income inequality. Such as research by Sungkar and Nazamuddin [37] found that the provincial minimum wage has a positive and significant effect on income inequality in Indonesia because those who work in the agricultural sector or informal sector are not directly affected by an increase in the provincial minimum wage. Research by Istikharoh et al. [38] in Fikri et al. [39] also found that the provincial minimum wage has a negative and significant effect on income inequality, that there are differences in determining the provincial minimum wage between regions so that there is uneven income distribution. Meanwhile, Anshari et al. [14] found that provincial minimum wages have a negative and significant effect on income inequality in Indonesia because increasing wages lead to an increase in people's purchasing power, so that there is an increase in demand for goods and services, which has implications for improving the economy. Litwin's [40] research in 17 OECD countries found that wages have a negative and significant wage can reduce income inequality. Policies in increasing provincial minimum wages provide welfare so that income distribution is more equitable.

Research on the effect of poverty on income inequality, Hindun et al. [10], shows that poverty has a positive and significant effect on income inequality in Indonesia due to the ability to meet minimum needs, because the increase in income reduces the income inequality gap. Meanwhile, Syahri and Gustiara [41] found that poverty has a negative and significant effect on income inequality in North Sumatra because the distribution of population expenditure of the lower 40 percent includes low inequality criteria. Meanwhile, research by Hassan et al. [42] found that in the long run, there is a positive relationship between poverty and income inequality in Pakistan.

4. Conceptual Framework and Research Hypothesis

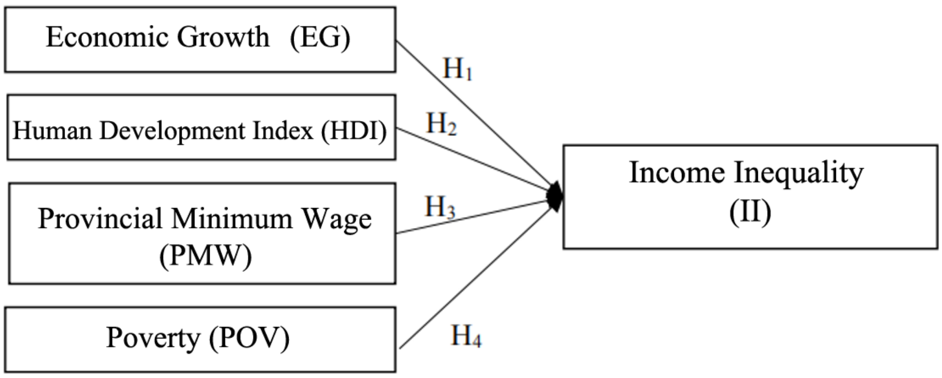

Figure 1.
Conceptual Framework.

4.1. Hypothesis

H_1: Economic growth has a negative and significant effect on income inequality.
H_2: The Human Development Index has a significant negative effect on income inequality.
H_3: The provincial minimum wage has a negative and significant effect on income inequality.
H_4: Poverty has a positive and significant effect on income inequality.

4.2. Research Methods

The form of research used is descriptive research with a quantitative approach. Descriptive research seeks to provide a description of a symptom with what, when, where, and how questions [43]. The quantitative approach uses numerical methods with statistical analysis aimed at testing the hypothesis made [44]. The research was conducted in Indonesia with 34 provinces in the last 8 years, namely 2015-2022.

Research using panel data (pooled data) consists of a combination of time series data and cross-sectional data [45]. In the study for time series data from 2015-2022 and cross-sectional data for 34 provinces. The data source uses secondary data published by the Central Statistics Agency (BPS). Consists of data on the Gini index, economic growth, human development index, provincial minimum wage, and poverty.

The model estimates the effect of economic growth, human development index, provincial minimum wage, and poverty on income inequality [45].

$$IG_{it} = \alpha + \beta_1 PE_{it} + \beta_2 IPM_{it} + \beta_3 UMP_{it} + \beta_4 KEM_{it} + e \quad (1)$$

Description:

IG	= Gini Index (Income Inequality)
α	= Constant
$\beta_1\ \beta_2\ \beta_3\ \beta_{(4)}$	= Regression Coefficient
PE	= Economic Growth
HDI	= Human Development Index
UMP	= Provincial Minimum Wage
KEM	= Poverty
i	= Unit Time Series
t	= The tth time period
e	= *error term*

Determination of the model approach in the panel data multiple regression estimation method, Gujarati [45] refers to the choice of the Common Effect Model, Fixed Effect Model or Random Effect Model. In choosing the right panel data model, several tests are used Widarjono [46] namely the Chow Test to select the Common Effect Model or the Fixed Effect Model; Hausman Test; Hausman Test to select the right panel data model.

to determine the random effect or fixed effect model. Multiple regression estimation tests, before being interpreted, will be carried out with classical assumption tests, including the Normality Test, Multicollinearity Test, Heteroscedasticity Test, and Autocorrelation Test [45, 47]. To obtain answers to research questions, the t Significance Test, and F Significance Test, and the Coefficient of Determination Test (R 2) will be conducted.

5. Results and Discussion

5.1. Research Results

5.1.1. Panel Data Estimation Model Selection

In analyzing panel data regression, there are several models that can be used, namely the common effect model, fixed effect model, and random effect model. In determining the most appropriate model, the Chow test and the Hausman test are carried out first. Based on the Chow test (p = 0.0000 <0.05) and the Hausman test (p = 0.0024 <0.05), the Fixed Effect Model was selected.

Multiple Linear Regression Analysis

The multiple linear regression analysis model chosen in this study is the fixed effect model (FEM) with the weighting method. The following are the results of multiple regression that have been processed:

Table 2.
Multiple Regression Results Fixed Effect Model.

Dependent Variable: Y				
Cross-sections included: 34				
Total panel (balanced) observations: 272				
Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.77892	0.075295	10.34487	0.0000
PE	-0.00047	0.000188	-2.528275	0.0121*
HDI	-0.00419	0.001292	-3.242548	0.0014*
Log UMP	-0.01056	0.008129	-1.299265	0.1951
KEM	0.00231	0.001158	1.997494	0.0469*
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.949358	Mean dependent var		0.436965
Adjusted R-squared	0.941350	S.D. dependent var		0.234795
S.E. of regression	0.011771	Sum squared resid		0.032424
F-statistic	118.5585	Durbin-Watson stat		1.537158
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.918878	Mean dependent var		0.352419
Sum squared resid	0.033635	Durbin-Watson stat		1.372026

Source: Results of data processing through EViews10
Note: * = significant at $p < 0.05$

Based on Table 2, the regression equation is obtained as follows:
Y_{it}= 0.77892- 0.00047(PE_{it}) - 0.00419 (HDI_{it}) - 0.01056($LogUMP_{it}$)+ 0.00231(KEM_{it}
The explanation of the regression equation is as follows:

a. The constant value (α) is 0.77892. This value means that if economic growth, human development index, provincial minimum wage, and poverty are constant (zero), then income inequality is 0.77892.
b. The coefficient β_1 = -0.00047 means that if economic growth increases by 1%, income inequality decreases by 0.00047 and vice versa, assuming that the human development index, provincial minimum wage, and poverty do not change.
c. The coefficient β2 = -0.00419 means that if the human development index increases by 1%, income inequality decreases by 0.00419 and vice versa, assuming that economic growth, provincial minimum wage, and poverty do not change.
d. The coefficient β_3 = -0.01056 means that if the provincial minimum wage increases by 1%, then income inequality decreases by 0.01056 and vice versa, assuming economic growth, human development index, and poverty do not change.
e. The coefficient β_4 = 0.00231 means that if poverty increases by 1%, then income inequality increases by 0.00231 and vice versa, assuming economic growth, human development index, and provincial minimum wage do not change.

5.2. Classical Assumption Test

The classical assumption test is a statistical requirement that must be met in multiple linear regression analysis based on Ordinary Least Squares (OLS). To ensure that the regression model obtained is the best model in terms of estimation accuracy, unbiasedness, and consistency, it is necessary to test classical assumptions [48]. The classical assumption test ensures that the regression equation being used is appropriate and valid. Based on the classical assumption tests (namely, Normality Test, Multicollinearity Test, Heteroscedasticity Test, and Autocorrelation Test), the regression model used is free from assumption deviations and meets the conditions for obtaining a good linear model.

The Jarque Bera test results show a probability value of 0.0380897 <0.05, so that in this study, the data is normally distributed. The multicollinearity test results show the correlation value between the independent variables is less than 0.8, so that in this study, there is no multicollinearity.

Generalized Least Squares (GLS) estimation is a transformation of variables that meets the least squares assumption, namely, homoskedasticity, so that in this method, there is no heteroskedasticity problem because the distribution of data becomes constant [45]. This study consists of 4 independent variables (k = 4) and 272 observations (N = 70), then a dL value of 1.7780 and a dU value of 1.82300 were obtained. The Durbin-Watson value of 1.537158 is greater than the dL value and smaller than the dU, so it can be concluded that the autocorrelation test results lie in positive autocorrelation.

5.3. Statistical Test

5.3.1. Test Coefficient of Determination (R^2)

Table 2 shows that the coefficient of determination (R2) is 0.949358, which means that the variation (change) in income inequality is 94.94% influenced by the variation in economic growth, human development index, provincial minimum wage, and poverty, while the remaining 5.06% is influenced by other factors outside the model.

5.4. F Significance Test

Then, the result of the F significant test, the probability value of 0.000000, is smaller than the real level $\alpha = 0.05$. This means that economic growth, human development index, provincial minimum wage, and poverty together have a significant effect on income inequality.

5.5. Significance t test

Table 2 shows that three of the four independent variables are significant: economic growth, human development index, and poverty on income inequality ($p < 0.05$). Further explanation is as follows:

a. Economic growth, showing a t-statistic value of -2.528275 and a probability value of 0.0121, is smaller than the significance level of 0.05. Economic growth has a negative and significant effect on income inequality in Indonesia and hypothesis 1 is proven.
b. The human development index shows a t-statistic value of -3.242548 and a probability value of 0.0014, which is less than the significance level (i.e., 0.05). Thus, the human development index has a negative and significant effect on income inequality, and hypothesis 2 is proven.
c. The provincial minimum wage shows a t-statistic value of -1.299265 and a probability value of 0.1951, which is greater than the significance level (i.e., 0.05). Therefore, provincial minimum wage has a negative and insignificant effect on income inequality and hypothesis 3 is not proven.
d. Poverty, showing a t-statistic value of 1.997494 and a probability value of 0.0469, is smaller than the significance level of 0.05. Poverty has a positive and significant effect on income inequality, and hypothesis 4 is proven.

6. Discussion

6.1. Effect of Economic Growth on Income Inequality

The findings in this study show that economic growth has a negative and significant effect on income inequality in Indonesia; thus, the first hypothesis (H1) of this study, which states that economic growth has a negative and significant effect on income inequality, is accepted. The negative and significant effect of economic growth on income inequality in Indonesia means that an increase in economic growth in Indonesia can significantly reduce income inequality, and vice versa: when economic growth decreases, it can increase income inequality in Indonesia. During the period 2015-2022, the average economic growth in Indonesia increased from 5.68% (2015) to 5.76% (2022). During the same period, the average Gini Ratio decreased from 0.36 to 0.34. This opposite situation (negative correlation) occurred in 11 provinces in Indonesia, namely Aceh, Riau, Jambi, South Sumatra, Bangka Belitung Islands, West Java, West Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, and Papua provinces. If we understand the Kuznets curve as an inverted 'U' shape, this is the desired condition, where inequality decreases as the economy grows and per capita income increases. This situation reflects the increasing welfare of the people.

Economic growth is the overall output produced by a country. When economic growth increases, it will have implications for the per capita income earned by the community, leading to a reduction in the gap between rich and poor people, or more equitable income distribution in the community within a region. In this study, it is found that increased economic growth can reduce income inequality. This is because higher economic growth will increase production capacity, resulting in an increase in per capita income, indicating an improvement in people's income, thereby making income inequality smaller or more evenly distributed. Economic growth has, in fact, succeeded in reducing income inequality from year to year, but the level of income itself is in the low to medium category. In addition, although income inequality in some regions is in the low category, meaning that the distribution of income is relatively even, the equity that occurs is at a low level of per capita income, which also reflects the low welfare of the community.

The reason why economic growth has a significant influence on income inequality is also suspected to be that the dominating sector is the secondary sector. This is followed by the tertiary sector, which contributes to economic growth. In the secondary and tertiary sectors, the per capita income generated is much higher than the primary sector, so economic growth is able to reduce income inequality.

Economic growth in Indonesia increased productivity, output and per capita income, which in turn reduced income inequality in each province so that it can be said that income distribution improved. This can be attributed to the sectoral growth, that the contribution of the secondary sector is the largest contributor and the tertiary sector, while the primary sector is the lowest. This is because economic growth followed by a decrease in income inequality is supported by sectors that benefit the community such as labor-intensive manufacturing in the sense that the community can also feel the impact with an increase in per capita income [34].

Referring to the Kuznets theory with an inverted "U" curve, the situation experienced by Indonesia's economic development is an expected situation. Increasing economic growth and per capita income are followed by low income inequality ($GR < 0.35$). In order for future economic growth to continue to be followed by an equitable distribution of income in society, the government needs to improve the quality of human resources in Indonesia. The problem of income inequality is not only related to the difference in income received between communities, but can also be caused by limited access to services in the form of education and health for the underprivileged. When the quality of human resources in Indonesia increases, it is expected that the community will be more productive, thus reducing the gap between the rich and the poor. In addition, the government is expected to be able to open labor-intensive jobs in sectors that contribute greatly to economic growth in Indonesia so that it can be followed by an increase in people's income.

The findings of this study provide a new development to similar research that examines the effect of economic growth on income inequality. This finding is similar to Istiqamah et al. [32] study in Indonesia, which found that economic growth has a negative and significant effect on income inequality. In contrast to the studies of Nadya and Syafri [31] in Indonesia, Alamanda [33] 50 countries, Putri, et al. [35] in Indonesia and Arif and Wicaksani [34] in East Java as well as Szczepaniak et al. [49]; Jewaru and Ervina [50] who found that economic growth has no significant effect on income inequality. The findings of Acemoglu and Robinson [51] and Rulita [52] prove that there is a positive and significant relationship between economic growth and income inequality.

6.2. Effect of Human Development Index on Income Inequality

Based on the statistical test results as shown in Table 2, it is revealed that the Human Development Index has a negative and significant effect on income inequality in Indonesia, thus the second hypothesis H2 of this study which states that the Human Development Index has a negative and significant effect on income inequality is accepted (proven). The negative and significant effect of the Human Development Index on income inequality in Indonesia means that an increase in the Human Development Index in Indonesia can significantly reduce income inequality and vice versa when the Human Development Index decreases, it can increase income inequality in Indonesia.

In fact, during the 2015-2022 period, Indonesia's average HDI increased from 68.58 (2015) to 71.97 (2022). This increase in HDI indicates an increase in welfare at all income levels of society as well as a sign of a decrease in income inequality. Income inequality (Gini Ratio) decreased from 0.36 to 0.34 over the same period.

An increase in HDI is not always followed by a decrease in income inequality. This is the case in eight out of 34 provinces. These eight provinces are North Sumatra, Yogyakarta, NTB, Central Kalimantan, East Kalimantan, Gorontalo, West Sulawesi, and West Papua. Especially for DI Yogyakarta, it turns out that the increase in HDI from year to year (the highest HDI in Indonesia) has an impact on increasing income inequality. The Gini Ratio during the 2015-2022 period always exceeded 0.4 (the highest in Indonesia).

The HDI in provinces in Indonesia from year to year continues to increase from 2015 to 2022. The increase in HDI reflects that people can improve their quality of life and access their general needs. In HDI, there are three indicators, including health, education, and a decent standard of living. In terms of health, when individuals have good physical health, they can work optimally and complete their tasks effectively. Furthermore, regarding education, when the level of education pursued by individuals is higher, the income earned will increase. Through education, individuals gain knowledge and skills that can be applied in the workforce. Individuals who receive quality education develop a mindset that enables them to think critically in solving problems and tend to have good performance. Additionally, regarding a decent standard of living, when individuals are able to fulfill their basic needs, such as food, shelter, and clothing, they can improve their overall well-being. When people can access these three indicators properly, the level of income earned also increases, which helps reduce income inequality.

The increase in the Human Development Index is also in line with the efforts made by the government. The steps taken by the government to improve the quality of human resources are through education in accordance with the human capital theory that human development, especially through education, is able to increase community productivity, so that it has implications for reducing income inequality. The programs issued by the government in increasing the Human Development Index, such as the Smart Indonesia Card (KIP) and the LPDP Program, which help underprivileged people in pursuing proper education [53]. The government also provides the Healthy Indonesia Card (KIS) program so that underprivileged people can access health services. The government's task for the future needs to pay attention to the Human Development Index, especially in areas that are still lagging behind. In addition, increasing the Human Development Index in each province by prioritizing HDI indicators in development, namely increasing access to health and education, which affect decent living standards so that it is hoped that when the quality of human resources increases, it will be followed by an equitable distribution of community income.

The results of this study provide new developments to similar studies that examine the effect of the Human Development Index on income inequality. The results of this study show that it is not in line with the research of Arif and Wicaksani [34] in East Java and Putri et al. [35] in Indonesia found that HDI has a positive and significant effect on income inequality. While the results of research that support Sarkodie and Adams [36] in Sub-Saharan Africa and Kusuma et al. [21] in Yogyakarta find that HDI has a negative and significant effect on income inequality.

6.3. Effect of Provincial Minimum Wage on Income Inequality

Gurría [54] argues that the recent growth in overall income inequality, at least in OECD countries, is largely driven by rising wage and salary inequality. Wages and salaries increase as education and skill levels increase. In developing countries, it is generally people from higher-income groups (the rich) who can attain higher education and skills.

Based on the t-test, it is revealed that provincial minimum wage (UMP) has a negative and insignificant effect on income inequality in Indonesia, thus the hypothesis H3 of this study that provincial minimum wage has a negative and significant effect on income inequality cannot be accepted. The negative and insignificant effect of provincial minimum wage on income inequality in Indonesia means that an increase in UMP in Indonesia can reduce income inequality but not significantly and vice versa when UMP decreases, it can increase income inequality in Indonesia, but not significantly.

This study found that an increase in the provincial minimum wage will be followed by a decrease in community income inequality in the sense that the distribution of community income is evenly distributed but not significantly. The provincial minimum wage is a wage as a reward for the labor provided by individuals, where the provincial minimum wage consists of a basic salary and fixed allowances. The results of this study are not in line with the existing neoclassical theory which states that the provincial minimum wage can increase income inequality because it will increase the price of labor, resulting in a reduction in employment and unemployment. The increase in income inequality is seen in terms of wages because there are regions that have higher wages than other regions. This inequality is what causes income inequality. An increase in the provincial minimum wage that occurs in a region has implications for increasing people's purchasing power in meeting their needs. When wages increase, almost all levels of society, both rich and poor, have purchasing power capabilities that tend to be the same in meeting the needs of daily life both for themselves and their families, where these wages determine the level of community welfare. So this makes the pattern of community spending tend to be the same, considering that the Gini ratio can be seen from community household expenditure in an area, so the provincial minimum wage can make the distribution of community income evenly distributed.

However, the provincial minimum wage does not have a large or insignificant effect in reducing income inequality due to differences between regions in determining the amount of the provincial minimum wage.

The insignificant effect of UMP on income inequality is evidenced by the following facts. In the Special Region of Yogyakarta, the UMP increased from Rp.1 million (2015) to Rp. 1.84 million (2022), but the amount is still far below the Indonesian average, and the income inequality rate is high (the figure far exceeds the national average figure). The Gini ratio in DIY increased from 0.420 to 0.459 over the same period. Meanwhile, in DKI Jakarta, the situation is different: the UMP is high (exceeding the Indonesian average UMP), but the inequality rate is also high (0.412), exceeding the Indonesian average Gini ratio (0.343).

The results of this study provide a new development to similar research on the effect of provincial minimum wage on income inequality. The findings of this study differ from Sungkar and Nazamuddin [37] study in Indonesia, which found that provincial minimum wages have a positive and significant effect on income inequality. The study findings also differ from Anshari et al. [14] in Indonesia and Litwin [40] in 17 OECD countries, who found that provincial minimum wage has a negative and significant effect on income inequality. Meanwhile, the study findings support the study of Istikharoh et al. [38] in DI Yogyakarta, which found that provincial minimum wage has a negative and insignificant effect on income inequality.

6.4. Effect of Poverty on Income Inequality

The fourth hypothesis (H_4) that poverty has a positive and significant effect on income inequality is accepted. The positive and significant effect of poverty on income inequality in Indonesia means that an increase in poverty in Indonesia can significantly increase income inequality, and vice versa; when poverty decreases, it can reduce income inequality in Indonesia. This situation occurs in all provinces in Indonesia except North Sumatra, Riau Islands, DKI Jakarta, Banten, Gorontalo and North Maluku.

When poverty increases, it is followed by an increase in income inequality, and vice versa; when poverty decreases, income inequality also decreases. Poverty is the inability of people to meet the minimum standard of living that has been determined. This inability comes from the income earned by the community is still in a small amount, which has implications for the fulfillment of living needs that do not meet the standard of living so they are in poverty. When people get an increased or much higher income, it indicates that the community is able to improve their living needs. The increase in community income will make the gap between communities smaller so that when poverty decreases, it is followed by a decrease in income inequality, or income distribution between communities tends to be evenly distributed [11]. This can be caused by the increasing level of education that individuals have. When the level of education is higher, the work that will be obtained also generates a higher income. So that people are increasingly able to meet their needs and are above the poverty line so that income distribution minimizes the gap.

The results of this study provide a new development to similar research on the effect of poverty on income inequality. The findings of this study differ from Syahri and Gustiara [41] in North Sumatra, who found that poverty has a negative and significant effect on income inequality. The results support Hindun et al. [10] in Indonesia and Hassan et al. [42] in Pakistan, who found that poverty has a positive and significant effect on income inequality.

6.5. Income Inequality Policy

Economist Simon Kuznets argues that the level of economic inequality is largely due to the stage of development. According to Kuznets, countries with a low level of development have a relatively even distribution of wealth. In the early stages, individual sectors or industries are developed first, which causes inequality in the distribution of income and wealth, resulting in increasing inequality in a country. As the economy progresses and development occurs in more sectors of the economy, which in turn attracts more workers, economic inequality is reduced.

Alisjahbana et al. [55] revealed that the problem of community income inequality is a long-term problem, so that to improve the distribution of community income, comprehensive and long-term policy measures are also needed. Various poverty alleviation programs have been launched by the government to improve the quality of human resources. With the increase in the quality of human resources, the opportunity to enter the labor market is increasing so that they are able to have a more decent income.

Challenges faced in reducing income inequality include (1) uneven and unstandardized quality and access to basic services (health, nutrition, education, and housing), (2) suboptimal efforts to empower the poor, and (3) limited social institutions and infrastructure to strengthen MSMEs and vocational training

To respond to these challenges, the government has made policy interventions, including:

7. Policy on Education

The allocation of the education budget since the reform era to 20% of the APBN and 20% of the APBD aims to improve equitable education throughout Indonesia, so that people get their right to education to the highest level.

In addition to the establishment of an education budget allocation, a 13-year compulsory education policy was established. The 13-year compulsory education includes 1 year of preschool education and 12 years of primary and secondary education. Compulsory 13-year education aims to prevent illiteracy while increasing school enrollment.

Providing education scholarships, especially for economically disadvantaged children (school-age population from poor families) from elementary to university level. Conduct integrated school programs that combine formal education with life and vocational skills. Conduct inclusive education and skills training programs to increase equitable opportunities.

In addition, the strengthening of vocational training institutions in the province is accompanied by the fulfillment of labor market needs through the expansion of employment opportunities. The school-age population of SMA/SMK/MA graduates who are not absorbed in higher education can choose vocational education to increase their skills.

7.1. Fiscal Policy

Fiscal policy, both in terms of taxation and spending, plays an important role in reducing inequality. With low income inequality and increased equality in health, education, and access to public services, reliable human resources will be created to enter the labor market [7].

Establish progressive taxation for high-income earners and tax exemptions for poor households. Using a progressive tax system to reduce income inequality. In addition to progressive taxation, a wealth tax was also established. Taxing wealth owned by individuals to reduce economic inequality. Strengthening fiscal policy for equitable redistribution, aimed primarily at high-income groups.

Tax Amnesty is part of the government's policy in the field of taxation to provide forgiveness or elimination of taxes that should be owed to taxpayers by not imposing tax administrative sanctions and criminal tax sanctions for taxpayers, with the terms or conditions that taxpayers are required to make a statement letter regarding the disclosure of assets owned and pay ransom in a certain nominal amount as a form of responsibility by taxpayers in providing tax revenue to the state. Tax amnesty, based on Law Number 11 of 2016, Article 1 paragraph 1 concerning Tax Amnesty, is the elimination of taxes that should be owed, not subject to tax administrative sanctions and criminal sanctions in the field of taxation, by disclosing assets and paying ransom. With tax amnesty, taxpayers are given the opportunity to pay taxes that were previously unreported or unpaid with lighter sanctions or even abolished, so that additional state revenue is obtained. The increase in state revenue has an impact on increasing the education budget as well as encouraging increased economic activity, which in turn can reduce income inequality.

7.2. Minimum Wage Policy

The determination of minimum wages in Indonesia is carried out by local governments, both provincial and district/city. Minimum wage determination must be conducted through a transparent and participatory process, involving various stakeholders. The minimum wage policy is updated annually. The minimum wage aims to achieve decent living needs while taking into account productivity and economic growth. The implementation of the minimum wage is intended to improve the welfare of workers and their families, which, in turn, will minimize income inequality.

7.3. Social Policy

The social policies carried out include the integration and simplification of programs and the distribution of social assistance digitally, quickly, and in a disaster-responsive manner; strengthening vocational training institutions in the province, accompanied by meeting labor market needs through the expansion of employment; strengthening capital for MSME actors as one of the main drivers of the middle-class economy; increasing people's purchasing power, especially for the lower middle class, through social protection reform; and agrarian reform for landless farmers in districts and cities. These social policies are implemented to increase people's income while minimizing income inequality.

7.4. Infrastructure Development Policy

The development of basic infrastructure in all regions of Indonesia will increase economic activity, enhance production capacity, reduce isolated areas, facilitate the flow of distribution of goods and community needs, as well as create employment opportunities. Unemployment will decrease, people's income will rise, poverty will decline, and income inequality will diminish. A decrease in income inequality when people's income increases is an expected coincidence as proposed by Simon Kuznets.

During these 10 years, the President's administration has been able to build a new foundation and civilization, with development that is Indonesia-centric, building from the periphery, building from villages, and building from the outermost regions. The development of basic infrastructure, especially in the sectors of dams, irrigation, and road connectivity, has been very intensively carried out in the last 10 years of government. In the province of East Nusa Tenggara (NTT), six large dams have been built to overcome the problem of drought, which is a trigger for high poverty in NTT (19.96% in 2023).

Infrastructure development is urgently needed to overcome the lagging infrastructure that is the foundation for improving the economy and competitiveness. The massive development of basic infrastructure in the last 10 years has succeeded in increasing Indonesia's competitiveness from 44th to 27th in 2024.

Efforts to realize economic self-sufficiency are carried out through infrastructure development throughout Indonesia. The development of basic infrastructure itself, from the beginning, has the aim of promoting economic equality within the framework of the sovereignty of the Unitary State of the Republic of Indonesia.

8. Conclusions and Recommendations

8.1. Conclusion

Based on the results of the analysis and discussion that has been presented, it can be concluded that:

1. Economic growth has a negative and significant effect on income inequality in Indonesia. An increase in economic growth can increase people's per capita income contributed by the secondary and tertiary sectors which are the largest contributors to economic growth so that economic growth can reduce income inequality in Indonesia.
2. The Human Development Index has a negative and significant effect on income inequality in Indonesia. The Human Development Index describes the welfare of society when people are able to access health, education, and a decent standard of living. It can increase community productivity so that income inequality in Indonesia can decrease.
3. The provincial minimum wage has a negative and insignificant effect on income inequality in Indonesia. The provincial minimum wage policy increases people's purchasing power so that people's spending patterns tend to be the same, but the effect is not significant in reducing income inequality.
4. Poverty has a positive and significant effect on income inequality in Indonesia. The decline in poverty can be caused by the higher level of education that a person has so that they get a job with a decent wage so that it can reduce income inequality.
5. Some of the policies that have been implemented to reduce income inequality include education policy, fiscal policy, social policy and infrastructure development policy.

8.2. Recommendation

Referring to Simon Kuznets' thesis, to realize low income inequality when per capita income is high, it is mandatory to carry out equitable development throughout the territory of the Republic of Indonesia, create a better investment climate to invite investment and investors to realize industrial downstreaming. Pro-poor, pro-job, and pro-growth policies need to be implemented in a disciplined, consistent, and holistic manner.

Improving and facilitating connectivity (connectivity) between villages and regions is essential. Along with this, human resource development and infrastructure development that is evenly distributed throughout the region are a must. Therefore, what the government has done in the last 10 years must be continued and improved to achieve Indonesia's development vision, namely the Golden Indonesia 2045, characterized by high per capita income (exceeding US $13,000; HDI > 80; no poverty; UMP > Rp. 5 million; and low inequality (GR < 0.3).

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