

# Path Analysis of HDI Mediating Poverty and Unemployment Effects on Economic Growth in Indonesia

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## Abstract

Economic growth remains a central goal in Indonesia's development agenda, yet it is often hindered by persistent poverty and unemployment. This study investigates the mediating role of the Human Development Index (HDI) in the relationship between poverty, unemployment, and economic growth across 11 provinces in Indonesia during the 2014–2023 period. Using a quantitative approach and panel data analysis, the study employs path analysis to examine both direct and indirect effects. The results indicate that poverty significantly reduces HDI, and HDI significantly mediates the effect of poverty on economic growth. However, HDI does not significantly mediate the relationship between unemployment and economic growth. The Fixed Effect Model (FEM) was selected as the most appropriate model based on Chow, Hausman, and Lagrange Multiplier tests. The Sobel test confirms the significant mediating role of HDI in the poverty–growth pathway, but not in the unemployment–growth linkage. These findings underscore the importance of enhancing human development as a strategic policy tool to mitigate the negative impacts of poverty on growth. Conversely, the lack of mediation in the unemployment pathway suggests the need for direct employment generation programs. This study contributes to the literature by highlighting the nuanced role of HDI in regional development and offers practical implications for policymakers in aligning social and economic priorities.

## 1. Introduction

Economic growth is a fundamental indicator of a nation's development, reflecting the improvement in the production of goods and services over time. In Indonesia, consistent economic growth has been a primary objective of national development planning, serving as a pathway to reduce poverty and unemployment—two persistent socioeconomic challenges. According to the Central Statistics Agency (BPS, 2023), Indonesia recorded an economic growth rate of 5.05% in 2023, indicating relative macroeconomic stability. However, this growth has not been evenly distributed across provinces, nor has it fully translated into improvements in social welfare.

Poverty and unemployment remain significant obstacles to inclusive economic development. Poverty reduces household purchasing power and limits access to education, health services, and other basic needs, thereby hampering human capital formation (Ginting, 2010). Unemployment, on

the other hand, reflects underutilization of the labor force, which reduces national productivity and may lead to social instability. Despite various government interventions, the national poverty rate stood at 9.36% in 2023, affecting approximately 25.90 million people, while the open unemployment rate was recorded at 5.39%, or around 15.02 million individuals (BPS, 2023).

The Human Development Index (HDI) serves as a comprehensive measure of human welfare by integrating three essential dimensions: education, health, and standard of living (UNDP, 1990). HDI not only reflects the quality of life but also acts as an intermediary factor linking economic and social variables. Prior studies suggest that improvements in HDI can mitigate the adverse effects of poverty and unemployment on economic growth (Sen, 1999; Zanzibar, 2024). However, the extent to which HDI mediates the relationship between poverty, unemployment, and economic growth in Indonesia remains empirically underexplored.

Understanding the mediating role of HDI is crucial for designing more effective policies aimed at sustainable development. While macroeconomic indicators such as GDP growth are often used to assess economic performance, they may not adequately capture the quality of human capital or the distribution of development outcomes. In this context, HDI provides a more human-centered framework for evaluating development progress.

This study aims to analyze the extent to which the Human Development Index mediates the effect of poverty and unemployment on economic growth in 11 selected provinces in Indonesia over the period 2014–2023. By applying path analysis, this research contributes to the growing body of literature that emphasizes the importance of multidimensional approaches to economic development. The findings are expected to provide practical insights for policymakers in enhancing human capital investment strategies, especially in regions that continue to face structural economic challenges.

## 2. Literature Review

### 2.1. Poverty and Economic Growth

Poverty is a multidimensional phenomenon that reflects not only the lack of income but also the deprivation of basic capabilities such as access to health, education, and a decent standard of living. According to Sen (1999), poverty is best understood as capability deprivation, which limits individuals' opportunities for full participation in society. Empirical studies have shown that high poverty levels negatively impact economic growth by reducing aggregate demand, limiting human capital development, and creating economic inefficiencies (Ginting, 2010; Todaro & Smith, 2006).

Furthermore, poverty constrains public and private investment in education and healthcare, thereby weakening the formation of human capital, which is essential for long-term economic performance. In Indonesia, although various poverty alleviation programs have been implemented, the persistent poverty rate in

several provinces suggests the need for more integrated approaches linking social policy with economic development (Fitri et al., 2014).

### 2.2. Unemployment and Economic Performance

Unemployment represents the proportion of the labor force that is actively seeking work but unable to find employment. High unemployment rates are detrimental to economic growth because they signify underutilization of productive resources, lead to income insecurity, and increase social dependency (Franita et al., 2016). According to Keynesian economic theory, unemployment results from insufficient aggregate demand and can be addressed through government intervention (Pigou, 1933; Keynes, in Reddaway, 2015).

Moreover, long-term unemployment erodes skills, weakens labor market confidence, and exacerbates inequality. In Indonesia, although the national unemployment rate has declined over recent years, disparities remain across regions and among different demographic groups (Marini & Putri, 2019). This underlines the importance of targeted employment policies that support both job creation and workforce development.

### 2.3. The Role of the Human Development Index (HDI)

The Human Development Index (HDI), developed by the United Nations Development Programme (UNDP), is a composite index measuring average achievements in health (life expectancy), education (mean and expected years of schooling), and standard of living (GNI per capita). Unlike purely economic indicators, HDI reflects a broader perspective on human welfare and development (UNDP, 1990).

Several studies suggest that HDI plays a mediating role in the relationship between socioeconomic factors and economic growth (Marsuni, 2024). For instance, Setiawan (2013) found that provinces with higher HDI values tend to experience stronger and more sustainable growth. The index is often used to

evaluate development outcomes and to guide policy in areas such as education reform, healthcare improvement, and poverty reduction. Therefore, improving HDI can potentially enhance economic resilience and labor productivity, leading to inclusive growth.

#### 2.4. Interrelationships among Poverty, Unemployment, and HDI

The interactions between poverty, unemployment, and HDI are complex and mutually reinforcing. High poverty and unemployment can reduce HDI by limiting access to quality education and healthcare services. Conversely, improvements in HDI can reduce poverty and unemployment by enhancing the capabilities and employability of individuals (Estrada & Wenagama, 2020).

Fatmawati (2016) and Zanzibar (2024) emphasized the significance of community and institutional collaboration in addressing development challenges, highlighting the role of HDI in facilitating integrated social and economic policies. Additionally, research by Efendi et al. (2024) confirms that HDI serves as a reliable proxy for measuring human development outcomes that influence broader macroeconomic trends.

#### 2.5. Empirical Gaps and Research Contribution

Although previous studies have extensively analyzed the direct effects of poverty and unemployment on economic growth, fewer have examined the mediating role of HDI in this relationship, particularly in the Indonesian context. This research addresses this gap by employing a path analysis model to explore both direct and indirect effects of poverty and unemployment on economic growth via HDI across 11 provinces in Indonesia from 2014 to 2023. The findings are expected to inform more effective human development policies that align social and economic priorities at the regional level.

### 3. Research Methods

#### 3.1. Research Design

This study employs a **quantitative research design** using **path analysis** to investigate both direct and indirect relationships between variables. Path analysis is a robust statistical method that extends multiple regression to assess complex causal models by decomposing correlations into structural paths (Hair et al., 2021; Shipley, 2009). This method is appropriate when the research involves mediating variables, allowing researchers to understand how and to what extent independent variables affect the dependent variable through one or more intervening constructs.

#### 3.2. Operational Variables and Model Structure

The research focuses on the influence of **poverty** and **unemployment** (independent variables) on **economic growth** (dependent variable), with the **Human Development Index (HDI)** acting as an intervening (mediating) variable. The operational framework consists of two structural equations:

##### 3.2.1. Structural Equation 1 (Model 1):

This equation estimates the influence of poverty and unemployment on HDI:

$$Z = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_1 Z$$

Where:

- $X_1$  = Poverty Rate
- $X_2$  = Unemployment Rate
- $Z$  = Human Development Index (HDI)
- $\varepsilon_1$  = Error term

##### 3.2.2. Structural Equation 2 (Model 2):

This equation estimates the influence of poverty, unemployment, and HDI on economic growth:

$$Y = \alpha_2 + \beta_3 X_1 + \beta_4 X_2 + \beta_5 Z + \varepsilon_2 Y$$

Where:

- $Y$  = Economic Growth
- $\beta_5$  = Coefficient of HDI influence on Economic Growth
- $\varepsilon$  = Error term

### 3.3. Data Collection

The study utilizes **secondary data** from the **Central Bureau of Statistics (BPS)** and the **Ministry of Finance of the Republic of Indonesia**, covering the period from **2014 to 2023**. The data include variables such as poverty rate, unemployment rate, HDI, and economic growth from **11 provinces in Indonesia**.

### 3.4. Data Analysis Technique

Data will be processed using **EViews software** to conduct the path analysis. The technique involves estimating the coefficients of both direct and indirect effects and testing the mediating effect of HDI using the **Sobel Test**. The Sobel test is conducted using the following formula:

$$Z = a \cdot \frac{b}{\sqrt{sa^2 + sb^2}}$$

Where:

- a = Coefficient of  $X \rightarrow Z$
- b = Coefficient of  $Z \rightarrow Y$
- sa = Standard error of coefficient a
- sb = Standard error of coefficient b

A **p-value** below 0.05 will be considered statistically significant in determining mediation effects.

### 3.5. Justification of Method

Path analysis was chosen because it enables a comprehensive evaluation of hypothesized causal relationships among multiple variables. It allows the simultaneous analysis of all paths in the model and is particularly well-suited for social science research that involves mediating constructs such as HDI. This methodological approach follows previous studies such as Prasetyoningrum (2018), which successfully employed path analysis in examining economic development indicators in Indonesia.

## 4. Results and Discussion

### Chow Test

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.155829	(10,96)	0.0000
Cross-section Chi-square	47.286260	10	0.0000

Chow test, the probability value obtained was chi-square is 0.0000. Because the value is smaller than 0.05, it can be concluded that the **Fixed Regression model Effect Model (FEM)** is more appropriate to use compared to **Common Effect Model (CEM)**. This shows that there are significant differences between data groups ( cross-sections ) that are better explained by the FEM model, where the variables show different characteristics in each entity.

### Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	43.376260	3	0.0000

Hausman test conducted in this analysis, a probability value of 0.0000 was obtained. Because the probability value is smaller than 0.05, it can be concluded that **Fixed Effect Model (FEM)** is more suitable to use than Random Effect Model (REM). The use of FEM in this analysis shows that there are significant individual differences between cross-section units, so this model is more appropriate to capture unique variations in each unit in panel data.

## Lm Test

Lagrange Multiplier Tests for Random Effects

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.042768 (0.8362)	119.3246 (0.0000)	119.3674 (0.0000)
Honda	-0.206805 (0.5819)	10.92358 (0.0000)	7.577904 (0.0000)
King-Wu	-0.206805 (0.5819)	10.92358 (0.0000)	7.782465 (0.0000)
Standardized Honda	0.539497 (0.2948)	11.91917 (0.0000)	5.543788 (0.0000)
Standardized King-Wu	0.539497 (0.2948)	11.91917 (0.0000)	5.758147 (0.0000)
Gourieroux, et al.	--	--	119.3246 (0.0000)

Lagrange test Multiplier (LM) is performed to determine the most appropriate model between Common Effect Model (CEM) and Random Effect Model (REM), probability value The Breusch Pagan value obtained was 0.8362. Because this value is greater than 0.05, this result indicates that the **Common Model Effect Model (CEM)** is more appropriate to use than Random Effect Model (REM). Therefore, in this analysis, the CEM model is chosen as the most appropriate model to describe the relationship between variables.

The results of the panel data model selection show that the most suitable model for use in regression analysis is **Fixed Effects Model (FEM)**. The Chow test shows significant differences between the pooled and fixed models. effects. The Hausman test confirms that FEM is more appropriate than the random model. effects. In addition, the Lagrange test Multipliers support these results by showing the superiority of FEM over pooled models.

## Sub Structural Path Analysis of Equation I

Dependent Variable: IPM

Method: Panel Least Squares

Date: 10/18/24 Time: 22:28

Sample: 2014 2023

Periods included: 10

Cross-sections included: 11

Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	83.88997	1.544002	54.33280	0.0000
TK	-1.219710	0.180453	-6.759143	0.0000
TP	-0.123945	0.131940	-0.939405	0.3499

  

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.900738	Mean dependent var	72.01182
Adjusted R-squared	0.888458	S.D. dependent var	3.371944
S.E. of regression	1.126160	Akaike info criterion	3.186098
Sum squared resid	123.0189	Schwarz criterion	3.505246
Log likelihood	-162.2354	Hannan-Quinn criter.	3.315546
F-statistic	73.35070	Durbin-Watson stat	0.465282
Prob(F-statistic)	0.000000		

## Partial Test (T)

Partial test is used to evaluate the influence of each independent variable individually on the dependent variable, namely the HDI (Human Development Index). From the regression results in the figure, we see that the TK (Poverty Level) variable has a t-statistic value of -6.759 with a probability value (p-value) of 0.0000. This shows that the TK variable partially has a significant influence on the HDI at a significance level of 1%. The coefficient of the TK variable is negative (-1.219710), which means that every one unit increase in TK will decrease the HDI by 1.219710, assuming other variables remain constant. This decrease is very significant, indicating that increasing poverty has a large and negative impact on increasing the HDI (Hypothesis 1 is accepted). This is in line with previous research conducted by Heppi Syofya in the title of her research article "The Effect of Poverty Levels and Economic Growth on the Indonesian Human Development Index" in 2018, stating that the Poverty Level has a significant influence on the Human Development Index in Indonesia.

On the other hand, the TP (Unemployment Rate) variable shows a t-statistic value of -0.939 with a p-value of 0.3499, which is far above the 5% significance threshold. This shows that partially, the effect of the TP variable on the HDI is not significant. Although the TP coefficient shows a negative direction (-0.123945), this effect is not significant enough to be considered statistically influential on the HDI. This may be due to other factors that dominate the relationship between

unemployment and the quality of human development, or because the data used is not strong enough to show a significant relationship on this variable (Hypothesis 2 is rejected). This is in line with previous research conducted by Sri Kasnelly, et al. In the title of his research article "The Effect of Unemployment Rate and Poverty Level on the Human Development Index in Indonesia" in 2021, it states that unemployment does not have a significant effect on the human development index.

### Simultaneous Test (F)

The simultaneous test aims to determine whether the independent variables simultaneously affect the dependent variable. In this regression result, we see an F-statistic value of 73.35070 with a probability value ( Prob (F-statistic )) of 0.0000. This very small p-value ( below 0.05) indicates that together, the TK and TP variables have a significant effect on the HDI. This means that when the two independent variables are combined in the model, they make a significant contribution in explaining the variations that occur in the HDI.

In simultaneous testing, emphasis is placed on the collective strength of the independent variables. Although TP is not significant in part, when considered together with TK, the overall effect becomes significant. This shows that even though one of the variables is not significant individually, it is still possible for them to make a significant contribution to the model when tested together. This simultaneous significance strengthens the validity of the regression model used, because it shows that the combination of TK and TP affects the overall HDI.

### Determination Coefficient Test (R<sup>2</sup>)

The coefficient of determination (R-squared ) provides an overview of how much variation in the dependent variable (HDI) can be explained by the independent variables in the regression model. In this regression result, the R-squared value of 0.900738 or 90.07% indicates that 90.07% of the variation in HDI can be explained by the TK and TP variables.

This is a very high number, indicating that the model used is very good at explaining variations in HDI. In other words, most of the changes in HDI can be explained by changes in the poverty rate and unemployment rate.

However, it is also necessary to note the adjusted R-squared value of 0.888458 or 88.84%. Adjusted R-squared improves the R-squared value by taking into account the number of independent variables in the model. Although the adjusted R-squared value is slightly lower than R-squared, the difference is not too significant. This shows that the addition of independent variables in the model (TK and TP) does not reduce the efficiency of the model's predictions too much. With the adjusted R-squared remaining high, this model is still considered strong in explaining the relationship between the independent and dependent variables. In addition, the SE of The regression of 1.126160 also supports a good model, indicating that the prediction error of the model is relatively low.

### Sub Structural Path Analysis of Equation II

Dependent Variable: PE  
Method: Panel Least Squares  
Date: 10/18/24 Time: 22:30  
Sample: 2014 2023  
Periods included: 10  
Cross-sections included: 11  
Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	94.15025	14.69118	6.408624	0.0000
TK	-1.150147	0.371434	-3.096502	0.0026
TP	-0.796650	0.224934	-3.541707	0.0006
IPM	-1.049682	0.172316	-6.091604	0.0000

#### Effects Specification

##### Cross-section fixed (dummy variables)

R-squared	0.378551	Mean dependent var	3.608091
Adjusted R-squared	0.294397	S.D. dependent var	2.275264
S.E. of regression	1.911226	Akaike info criterion	4.251781
Sum squared resid	350.6675	Schwarz criterion	4.595478
Log likelihood	-219.8479	Hannan-Quinn criter.	4.391186
F-statistic	4.498285	Durbin-Watson stat	1.899175
Prob(F-statistic)	0.000006		

### Partial Test (T)

The partial test aims to assess the influence of each independent variable, namely TK (Poverty Level), TP (Unemployment Level), and HDI (Human Development Index), on the dependent variable, PE (Economic Growth). Based on the regression results in the figure, the TK variable has a t-statistic value of -3.096 with

a p- value of 0.0026. This shows that TK has a negative and significant effect on PE at a significance level of 1%. This means that an increase in poverty by 1 unit will reduce economic growth by 1.1501 units. Meanwhile, the TP variable also has a significant negative effect on PE, with a t-statistic value of -3.547 and a p- value of 0.0006. The negative TP coefficient of -0.7967 indicates that an increase in the unemployment rate will significantly reduce economic growth.

HDI also shows a significant negative effect on PE, with a t-statistic value of -6.091 and a p- value of 0.0000. The coefficient of -1.0497 indicates that a one-unit increase in HDI will reduce economic growth by 1.0497 units. Although HDI is usually considered a positive indicator of human development, in this context, an increase in HDI appears to be associated with a decrease in economic growth, which may be due to other factors such as resource allocation for improving quality of life that reduces direct investment in short-term economic growth (Hypothesis 3 is accepted). This is not in line with previous research conducted by Maulana, et al. In the title of his research article "The Effect of the Human Development Index (HDI) on Economic Growth in Banten Province in 2019-2021" in 2022, stated that HDI has an insignificant effect on Economic Growth.

### Simultaneous Test (F)

Simultaneous test is used to assess whether all independent variables (TK, TP, and HDI) together have a significant effect on the dependent variable, namely economic growth (PE). From the results of the F test in the regression table, the F- statistic value is 4.4983 with a p- value of 0.000066, which indicates that the TK, TP, and HDI variables together have a significant effect on PE at a 5% confidence level. This indicates that although some variables may not show a significant effect individually, when tested simultaneously, they collectively affect economic growth.

In other words, the simultaneous test emphasizes the strength of the overall

relationship between the independent and dependent variables. In this case, TK, TP, and IPM simultaneously contribute significantly to the variation in PE. This indicates that the three variables cannot be ignored in the economic growth analysis model, although the partial effects of each variable may differ in intensity and direction.

### Determination Coefficient Test ( $R^2$ )

The coefficient of determination ( $R$ -squared ) in the regression results of 0.378551 indicates that 37.85% of the variation in economic growth (PE) can be explained by variations in the TK, TP, and IPM variables. Although this is not a very high number, it still shows that almost 38% of the change in PE can be predicted by these variables. The remaining 62.15% is explained by other variables outside the model that may not have been included in this analysis.

Adjusted  $R$ - squared of 0.294397 is slightly lower than  $R$ - squared, indicating that there is some decrease in the predictive ability of the model when taking into account the number of independent variables used. However, this model is still quite good at explaining the effects of TK, TP, and IPM variables on economic growth. In addition, the SE value of regression of 1.911226 shows a fairly significant level of error in this model, which indicates inaccuracy in predicting the actual PE value, possibly due to other variables that affect PE but are not included in this model.

### Poverty Level on Economic Growth through the Human Development Index

Input:	Test statistic:	Std. Error:	p-value:
a -1.219710	Sobel test: 4.52507121	0.28293646	0.00000604
b -1.049682	Aroian test: 4.49798898	0.28464001	0.00000686
$s_a$ 0.180453	Goodman test: 4.5526486	0.28122259	0.0000053
$s_b$ 0.172316	Reset all	Calculate	

Sobel's results the test shown, we can understand that Sobel test is used to evaluate whether the mediating variable (in this case,

IPM) has a significant role in bridging the influence of the independent variable (TK) on the dependent variable (PE). The statistical value of the Sobel test test is 4.52507121, which is a measure of the strength of the mediation relationship being tested. The higher the value of the test statistic, the greater the likelihood that the mediation that occurs is statistically significant.

Apart from that, the p-value produced by Sobel test is 0.00000604, which is very small and far below the general significance standard (eg, 0.05 or 0.01). This p-value serves as an indicator of whether the Sobel test results are strong enough to support significant mediation. With a very low p-value like this, we can conclude that there is very strong evidence that the HDI variable does play an important role in mediating the relationship between TK and PE. This low p-value indicates that the possibility of this mediation relationship occurring by chance is very small, so we can conclude that this mediation is statistically significant (Hypothesis 4 is accepted). This is in line with the results of our analysis based on research conducted by Nabila entitled "Analysis of the Effect of Gross Regional Domestic Product, Human Development Index, and Unemployment Rate on Poverty Levels" in 2015 and also Arofah (2022), which can be concluded that the Human Development Index (HDI) can act as a mediating variable (intervening) in the influence between poverty levels on economic growth. HDI measures the quality of human resources through education, health, and standard of living, all of which are affected by poverty levels. When poverty decreases, people have better access to education and health, so the HDI increases. This increase in HDI has the potential to boost labor productivity which ultimately spurs economic growth. Several studies have shown that HDI has a significant positive effect on economic growth. HDI can mediate the relationship between macroeconomic variables, including poverty, and economic growth in several provinces in Indonesia.

Standard error associated with Sobel's results test is 0.28293646, which provides

information about the level of uncertainty of the obtained estimate. This relatively small standard error indicates that the mediation effect estimate is quite stable, and its variation is not large. The combination of a high test statistic value, a very low p-value, and a small standard error indicates that the existing mediation relationship can be considered strong and very significant. These results provide an understanding that the mediation role of HDI is very important in explaining how TK affects PE, thus indicating a complex relationship between these variables in the tested model.

### Unemployment Rate on Economic Growth through Human Development Index

Input:	Test statistic:	Std. Error:	p-value:
a -0.123945	Sobel test: 0.92842938	0.14013218	0.35318488
b -1.049682	Aroian test: 0.91644611	0.14196452	0.35943296
s <sub>a</sub> 0.131940	Goodman test: 0.94089536	0.13827556	0.34675849
s <sub>b</sub> 0.172316	Reset all	Calculate	

Sobel's results test displayed, the test statistic value of 0.92842938 indicates that the strength of the mediation effect of the IPM variable in the relationship between TP and PE is relatively weak. Sobel The test itself is used to assess whether the mediating variable (in this case IPM) really has a role in mediating or bridging the relationship between the independent variable (TP) and the dependent variable (PE). In this case, the resulting test statistic value indicates that the mediation effect is not strong enough to be said to be significant. Practically, the number 0.928 is closer to the value 0, which indicates that the mediation relationship tested through Sobel the test does not have much power.

In addition, the resulting standard error value is 0.14013218, which provides an overview of the uncertainty or level of variation in the measurement of the mediation effect. This standard error is relatively small, indicating that the variables tested have a fairly stable distribution. However, although the standard error is not large, this is not enough to indicate

that the mediation effect is significant. The most important determining factor in this result is the p-value.

In this result, the p-value Sobel test of 0.35318488, which is much higher than the commonly used significance threshold (e.g., 0.05 or 0.01). P-value is an indicator that shows whether the test result is significant or not. In this case, a high p-value indicates that the mediation effect of HDI in the relationship between TP and PE is not statistically significant. This means that the possibility that the observed mediation effect occurs by chance is quite large. With such a large p-value, we cannot conclude that the HDI variable has an important role in mediating the effect of TP on PE. So, overall, these results indicate that there is no strong enough evidence to support the existence of significant mediation by HDI in the relationship between TP and PE (Hypothesis 5 is rejected). This is not in line with the research conducted by Arofah entitled "The Role of Human Development Index Mediating the Effect of Unemployment on Economic Growth" in 2022, which states that Human Development Index is able to mediate the effect of unemployment on economic growth because high unemployment can reduce Human Development Index due to lack of access to income, education, and health services, which are the main components of Human Development Index. When Human Development Index decreases, economic growth will also be hampered, considering that the quality of human resources is a key factor in economic productivity. Conversely, if unemployment decreases and Human Development Index increases, economic growth tends to be more positive. In several studies, Human Development Index has been shown to be a significant mediating variable in this relationship, where increasing Human Development Index can help improve the negative impact of unemployment on economic growth.

## 5. Closing

### 4.1 Conclusion

Based on the results of the regression analysis and mediation test, it can be concluded that the poverty rate (TK) has a negative and significant effect on the Human Development Index (HDI) and economic growth (PE) both partially and simultaneously, while the unemployment rate (TP) does not have a significant effect on the HDI but is significant on PE. The simultaneous test shows that TK and TP simultaneously affect the HDI, and TK, TP, and HDI affect PE. The mediation of HDI is significant in the relationship between TK and PE, but not significant in the relationship between TP and PE, indicating that the role of HDI is stronger in bridging the influence of poverty on economic growth than unemployment.

### 4.2 Suggestions

Advice we can give as researcher that increase in HDI can functioning as more mediation effective in lower impact poverty to growth economy and unemployment, so we recommend that the policy focused on improving the HDI through access education and health as well as provision field productive work.

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