Determinants of Economic Growth: The Role Of Poverty, Unemployment, and HDI (2019–2024)

Rebecca Cindy Sartika[*], Muh. Syaiful Bakhri, Firdan Thoriq Faza

Faculty of Economics, Development Economics Study Program, Universitas Tidar, Magelang, Indonesia
Jl. Kapten Suparman 39 Potrobangsan, Kec. Magelang Utara, 56116, Kota Magelang, Jawa Tengah, Indonesia
Email: [1,*]rebeccacindy@untidar.ac.id, [2]muhsyaifulbakhri@untidar.ac.id, [3]faza@untidar.ac.id
Corresponding Author: rebeccacindy@untidar.ac.id

Abstract–Indonesia is committed to achieving the Sustainable Development Goals (SDGs), which necessitates continuous evaluation of development outcomes across regions. Economic growth serves as a key indicator of sustainable development, making it essential to understand the factors that influence it. This study aims to examine the impact of the poverty rate, unemployment rate, and Human Development Index (HDI) on economic growth in Central Java Province. Employing a quantitative approach, the research utilizes panel data from 35 regencies and municipalities in Central Java for the 2019 to 2024 period and applies panel data regression using the Fixed Effect Model (FEM), selected through specification tests to ensure robustness. The findings reveal that poverty (β = -0.0149967; $p < 0.001$) and unemployment rates (β = -0.0051182; $p < 0.001$) have a negative effect on economic growth, while the HDI (β = 3.201663; $p < 0.001$) has a positive and significant effect. The model explains approximately 60% of the variation in economic growth (R^2 = 0.6019). These results underscore the importance of reducing poverty and unemployment while enhancing human development as key drivers of regional growth. The study contributes empirically by integrating poverty, unemployment, and human development variables simultaneously within the SDG framework, thereby providing comprehensive insights to support policy formulation aimed at achieving inclusive and sustainable economic growth in Indonesia.

Keywords: Economic growth; poverty; unemployment; human development index; SDGs

1. INTRODUCTION

Economic growth is one of the fundamental indicators used to assess the success of regional development. This indicator not only reflects the increase in the production capacity of goods and services but also signifies the improvement of social welfare and quality of life (Nengsih et al., 2024). Sustainable economic growth indicates an increase in productivity and efficiency in resource utilization, which in turn strengthens economic stability and expands employment opportunities. The Government of Indonesia is committed to achieving the Sustainable Development Goals (SDGs), particularly Goal 8, namely Decent Work and Economic Growth, which emphasizes the importance of inclusive, sustainable, and equitable economic growth (Ponto, 2023). To achieve this goal, a comprehensive understanding of the determinants of regional economic growth is required, considering the variations in social, demographic, and structural conditions across regions in Indonesia that may influence the effectiveness of development policies.

Central Java Province plays a strategic role in the national economic structure due to its significant contribution to Indonesia's Gross Domestic Product (GDP). Nevertheless, the province continues to face several challenges in maintaining and accelerating its economic growth rate. Based on data from the Central Java Statistics Agency, the province's economy has shown a positive growth trend over the past five years (BPS, 2025). However, interregional disparities, relatively high poverty rates in several districts, and fluctuating unemployment levels remain crucial issues. These conditions indicate that economic growth in the province has not yet been fully inclusive and has not optimally reduced social inequality. In addition, the 2019–2024 period is particularly interesting to examine as it covers the COVID-19 pandemic and the post-pandemic recovery phase, during which the dynamics of poverty, unemployment, and human development have undergone significant changes. Therefore, a more in-depth empirical analysis is needed to identify the factors influencing regional economic growth performance to support the formulation of more effective development policies.

Previous studies have produced diverse findings regarding the determinants of economic growth. Several studies Alfaris et al. (2023); Andini Mulyasari (2016); Kusno et al. (2023); Wicaksono (2014) found that human capital, as measured by the Human Development Index (HDI), has a positive effect on economic growth. Other studies conducted by E. F. S. Putri et al. (2024); I. A. Putri & Soesatyo (2016); Zahari & Prabowo (2022) revealed that a decrease in unemployment can stimulate economic growth. Meanwhile, Alfaris et al. (2023); Pratama & Darsana (2019); E. F. S. Putri et al. (2024) found that poverty reduction contributes positively to achieving the SDGs. Conversely, other studies Hidayat & Prabowo (2024); Moh Muqorrobin & Soejoto (2017); Mukhtar et al. (2019); Utami (2020) indicated that the HDI does not always exert a positive influence, particularly in developing countries such as Indonesia, where inefficiency, corruption, and regional disparities may hinder the effective use of social expenditures. Furthermore, research Paramita & Purbadharmaja (2015) shows that increases in unemployment and poverty can coexist with economic growth due to the expansion of the informal sector, which absorbs surplus labor.

Previous research has also highlighted that socioeconomic variables such as poverty rate, unemployment rate, and human development are closely related to economic growth. Novriansyah (2018) explains that high levels of poverty and unemployment can reduce labor productivity, suppress aggregate demand, and hinder capital accumulation, which ultimately have a negative impact on economic growth. Conversely, an increase in the Human Development Index, reflecting progress in education, health, and living standards, has been proven to contribute positively to economic growth through improvements in human capital quality and productivity (Puttitanun & Lerskullawat, 2025). Therefore, examining the relationship between poverty, unemployment, and human development in relation to economic growth is essential to understanding regional economic dynamics, particularly in regions striving to accelerate post-pandemic recovery.

Despite extensive empirical investigations, important gaps remain. First, most prior studies analyze poverty, unemployment, and HDI separately rather than integrating them simultaneously within a unified econometric framework. Second, limited research employs district-level panel data to capture interregional heterogeneity and dynamic post-pandemic adjustments. Third, few studies explicitly position the analysis within the SDGs framework, particularly in relation to inclusive growth in Central Java. Consequently, there is a need for a more comprehensive and region-specific analysis that examines how these three variables jointly influence economic growth during the 2019–2024 period.

The novelty of this study lies in its empirical approach, which integrates three key variables, namely the poverty rate, unemployment rate, and Human Development Index, simultaneously within a single analytical model to explain variations in economic growth across districts and cities in Central Java Province during the 2019 to 2024 period. The use of panel data from 35 districts and cities is expected to produce more accurate and comprehensive estimates compared to previous studies that have generally employed partial approaches or aggregate data. Furthermore, this study situates the analysis of economic growth within the framework of the Sustainable Development Goals (SDGs), offering a broader and more holistic perspective by incorporating social and human development dimensions as integral components of sustainable economic development.

Based on the above discussion, this study aims to empirically analyze the effects of poverty, unemployment, and human development on economic growth in Central Java Province during the 2019–2024 period. The study is expected to provide scientific evidence that enriches the literature on regional economic growth determinants. In addition, the findings are expected to contribute conceptually to the field of development economics and serve as a practical foundation for local governments in designing policies focused on poverty alleviation, job creation, and human capital improvement, thereby accelerating the realization of inclusive and sustainable economic growth in Central Java Province.

2. RESEARCH METHODS

This study employs a quantitative research design aimed at analyzing the relationship between measurable economic variables. The quantitative approach was chosen because it provides objective, measurable, and statistically testable analytical results. Through this approach, the study seeks to identify the influence of poverty rate, unemployment rate, and Human Development Index (HDI) on economic growth in Central Java Province during the 2019 to 2024 period. The analysis is conducted using panel data regression, which allows for the combination of both time series and cross-sectional dimensions, resulting in more efficient parameter estimation and a comprehensive understanding of interregional economic dynamics.

The data used in this study are secondary panel data, combining time series and cross-sectional observations for 35 regencies and municipalities in Central Java Province over the 2019 to 2024 period. The data were obtained from official sources, including the Central Java Statistics Agency, district and city BPS offices, and the Regional Development Planning Agency. The variables collected include the economic growth rate measured by Gross Regional Domestic Product (GRDP) at constant prices, poverty rate, open unemployment rate, and Human Development Index (HDI).

Four main variables are employed in this study. Economic growth (Y) is measured using the Gross Regional Domestic Product (GRDP) per capita at constant prices (in thousand rupiah). Poverty rate (X_1) is measured as the percentage of poor population to total population in each district or city. Open unemployment rate (X_2) is measured as the percentage of unemployed individuals in the labor force. The Human Development Index (HDI) (X_3) is a composite index that measures human development achievements across three key dimensions, namely health, education, and standard of living, on a scale of 0 to 100.

Based on the theoretical framework and previous empirical findings, the following research hypotheses are formulated:
H1: The poverty rate has a negative and significant effect on economic growth.
H2: The open unemployment rate has a negative and significant effect on economic growth.
H3: The Human Development Index (HDI) has a positive and significant effect on economic growth.

The data analysis was carried out using a panel data regression model to identify the effects of poverty, unemployment, and HDI on economic growth in Central Java Province. The panel data model enables simultaneous analysis of interregional characteristics and time dynamics, thereby producing more robust and representative

estimation results. Model selection was conducted through a series of specification tests to determine the most appropriate estimation technique. The Chow Test was first used to compare the Common Effect Model with the Fixed Effect Model (FEM). If the Fixed Effect Model proved more suitable, the Hausman Test was then applied to decide between the Fixed Effect Model and the Random Effect Model (REM). In cases where the Random Effect Model was more appropriate, the Lagrange Multiplier (LM) Test was performed to confirm its adequacy compared to the Common Effect Model. All analyses were conducted using Stata 17 software.

To ensure the validity of the regression model, a series of classical assumption tests were performed, including the normality test, multicollinearity test, and heteroskedasticity test. According to Awaludin et al. (2023) and Basuki & Prawoto (2016), autocorrelation testing is not mandatory in panel data analysis because panel data primarily contain cross-sectional elements, while autocorrelation typically occurs in pure time series data. The normality test ensures that residuals are normally distributed, the multicollinearity test confirms the absence of strong linear relationships among independent variables, and the heteroskedasticity test examines the equality of residual variances. The results of these diagnostic tests provide the basis for assessing the reliability and robustness of the regression estimates.

The panel data regression model used in this study is specified as follows:

$$LY_{it} = \alpha + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 LX3_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots (1)$$

where LY_{it} represents the economic growth of district or city i in year t, $X1_{it}$ denotes the poverty rate, $X2_{it}$ indicates the open unemployment rate, and $LX3_{it}$ represents the Human Development Index. The parameters α and $\beta_1, \beta_2, \beta_3$ denote the constant and regression coefficients, respectively, while ε_{it} represents the error term.

3. RESULTS AND DISCUSSION

3.1 Model Selection

To determine the most appropriate panel data estimation technique, a series of specification tests were conducted, including the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test. The results of these tests are explained sequentially below. The Chow Test produced a Prob > F value of 0.0000, which is smaller than the significance level of 0.05. Therefore, the Fixed Effect Model is more appropriate to use compared to the Common Effect Model. Furthermore, the Hausman Test resulted in a Prob > chi2 value of 0.0006, which is also smaller than 0.05, indicating that the Fixed Effect Model is more suitable than the Random Effect Model. However, to ensure model efficiency, the Lagrange Multiplier (LM) Test was also conducted and produced a Prob > chibar2 value of 0.0000, which is smaller than 0.05, meaning that the Random Effect Model is better than the Common Effect Model. Considering all test results, the most appropriate model to be used in this study is the Fixed Effect Model, as indicated by the Hausman Test result, which shows that this model is the most suitable among the alternatives.

3.2 Classical Assumption Testing

Based on the results of the classical assumption tests conducted using Stata version 17, the regression model in this study satisfies all required assumptions. These diagnostic tests were conducted prior to the regression analysis to ensure that the estimated model is valid and produces reliable results. The results of the multicollinearity, heteroskedasticity, and normality tests are presented sequentially in Table 1, Table 2, and Table 3. First, the multicollinearity test results are presented in Table 1 using the correlate command to examine the correlation among independent variables. The results show that all correlation values among independent variables are below 0.80, indicating that there is no multicollinearity problem in the model.

Table 1. Multicollinearity Test Results

Variable	LY	X1	X2	LX3
LY	1.000			
X1	-0.5980	1.000		
X2	0.1365	0.0298	1.000	
LX3	0.7517	-0.6978	-0.0627	1.000

As shown in Table 1, the correlation coefficients among the independent variables do not exceed the threshold value of 0.80. This result indicates that the explanatory variables do not exhibit strong linear relationships with one another, confirming that the model is free from multicollinearity problems. Second, the results of the heteroskedasticity test shown in Table 2 using the Glejser method to determine whether the variance of the residuals is constant across observations. The results indicate that all variables have p-values greater than 0.05, which means that there is no indication of heteroskedasticity in the regression model.

Table 2. Heteroskedasticity Test Results

Variable	Coefficient	T – statistics	P - value
_cons	0.0027638	0.83	0.406

Variable	Coefficient	T – statistics	P - value
X1	-0.0000219	-1.65	0.100
X2	8.66e-06	0.51	0.610
LX3	-0.0012963	-0.75	0.453

Based on Table 2, all independent variables have probability values greater than the significance level of 0.05. Therefore, it can be concluded that the regression model does not suffer from heteroskedasticity, indicating that the residual variance is homoscedastic and stable across observations. Furthermore, the results of the residual normality test presented in Table 3 using the Skewness and Kurtosis test to examine whether the residuals follow a normal distribution. The results show that the p-value is greater than 0.05, indicating that the residual data are normally distributed.

Table 3. Normality Test Results

Variable	Adj. chi2(2)	p-value
X1	9.96	0.102
X2	11.92	0.614
LX3	14.93	0.451

As indicated in Table 3, the probability values exceed the significance level of 0.05, suggesting that the residuals are normally distributed. This condition confirms that the normality assumption required for regression analysis is satisfied. In addition, according to Awaludin et al. (2023), in panel data analysis, it is not mandatory to perform an autocorrelation test because panel data have cross-sectional characteristics, whereas autocorrelation generally occurs only in time series data. Therefore, the results of the classical assumption tests conducted using Stata version 17 indicate that the regression model meets all the necessary requirements and is suitable for further analysis.

3.3 Panel Data Regression Analysis

The results of the panel data regression analysis using the Fixed Effect Model (FEM) are presented in Table 4. This table summarizes the estimated coefficients, t-statistics, and significance levels of each independent variable affecting economic growth in Central Java Province during the study period.

Table 4. Estimation Results of the Fixed Effect Model (FEM)

Variable	Coefficient	t-statistic	p-value
X1	-0.0149967	-5.68	0.000*
X2	-0.0051182	-4.49	0.000*
LX3	3.201663	10.25	0.000*
Constant	0.3079517	0.71	0.478
R-squared	0.6019		
F-statistic	142.53	p-value	0.0000*

Note: (*) significant at α = 0.05 (5%)

Based on the estimation results in Table 4, the panel data regression equation using the Fixed Effect Model can be written as follows:

$$LY_{it} = 0.3079517 - 0.0149967X1_{it} - 0.0051182X2_{it} + 3.201663LX3_{it} + \varepsilon_{it}$$

The interpretation of the estimation results provides an understanding of how each independent variable, namely poverty rate, open unemployment rate, and Human Development Index, affects the dependent variable, namely economic growth (GRDP), based on the regression model used in this study. The detailed explanation is as follows:

1. The constant (α) value of 0.3079517 indicates that if all independent variables (poverty rate, open unemployment rate, and Human Development Index) are assumed to remain constant, the economic growth (LY) will have a value of 0.3079517.
2. The variable representing the poverty rate (X1) has a regression coefficient of -0.0149967. This means that a one-unit increase in the poverty rate will reduce GRDP by 0.0149, assuming other variables remain constant. This result implies that the higher the poverty rate, the lower the level of economic growth in a region.
3. The open unemployment rate (X2) variable has a regression coefficient of -0.0051182. This indicates that a one-unit increase in the unemployment rate will decrease GRDP by 0.0051. In other words, higher unemployment leads to lower economic growth.
4. The Human Development Index (LX3) variable has a regression coefficient of 3.201663. This means that a one-unit increase in HDI will increase GRDP by 3.2016, assuming other variables remain constant. This result shows that improvements in human capital quality significantly contribute to higher economic growth.

The results of the F-test and the coefficient of determination (R² test) indicate that the regression model used in this study is statistically appropriate and has strong explanatory power. The Prob > F value of 0.0000 shows that all independent variables in the model, namely the poverty rate, open unemployment rate, and Human Development Index, jointly have a significant effect on economic growth. Furthermore, the R-squared value of 0.6019 indicates that 60.19 percent of the variation in economic growth can be explained by these three variables, while the remaining

39.81 percent is influenced by other factors outside the model. This relatively high R² value suggests that the model effectively captures the relationship among the variables and provides a good representation of the variations in economic growth across regions during the study period.

The t-test is used to determine the partial effect of each independent variable on the dependent variable. The testing criterion is that if the Prob (p-value) < 0.05, the independent variable has a significant effect on the dependent variable. Based on the estimation results of the Fixed Effect Model, the following findings are obtained:

1. The effect of the poverty rate (X1).

   The coefficient of the poverty variable is -0.0149967 with a p-value of 0.000 < 0.05. This indicates that the poverty rate has a negative and significant effect on economic growth (GRDP). In other words, the higher the poverty level in a region, the lower its economic growth tends to be. This finding is consistent with development economics theory, which suggests that poverty is one of the main obstacles to increasing economic activity.

2. The effect of the open unemployment rate (X2).

   The estimation results show that the open unemployment rate variable has a coefficient of -0.0051182 with a p-value of 0.000 < 0.05, indicating that the unemployment rate has a negative and significant impact on economic growth. This suggests that an increase in unemployment reduces economic output due to lower labor productivity. Hence, higher unemployment leads to slower economic growth in a region.

3. The effect of the Human Development Index (LX3).

   The Human Development Index variable has a coefficient of 3.201663 with a p-value of 0.000 < 0.05, indicating a positive and significant effect on economic growth. This means that improvements in human capital quality, as reflected by higher HDI, can enhance productivity and regional competitiveness, thereby boosting economic growth. This result supports the view that human development is a key factor in achieving sustainable economic growth.

3.4 The Effect of Poverty Rate on Economic Growth

Based on the research findings, the poverty rate variable has a coefficient value of -0.0149967 with a p-value of 0.000 < 0.05, indicating that poverty has a negative and significant effect on economic growth (GRDP). This result shows that the higher the poverty rate in a region, the lower its economic growth tends to be. This finding aligns with economic development theory, which emphasizes that poverty is one of the main factors hindering the improvement of economic activity within society (Utami, 2020). When a large portion of the population lives in poverty, their purchasing power for goods and services decreases, leading to a decline in aggregate demand and, consequently, reduced production activities. This situation ultimately results in slower overall economic growth.

The results of this study are consistent with the findings of Alfaris et al. (2023), which demonstrated that poverty negatively affects economic growth in Central Java. Similarly, the studies of Bayu & Fathoni (2024) reinforce these findings by stating that poverty can reduce labor productivity and hinder investment in education and health sectors, both of which are crucial drivers of long-term economic growth. Comparable results were also reported by Lambon et al. (2025), who found that an increase in the number of poor people reduces household consumption capacity and weakens regional production activities.

In Central Java, the relatively high poverty rate remains a major challenge in achieving the regional development targets set out in the Regional Medium-Term Development Plan (RPJMD) of Central Java Province for 2025 to 2029. One of the main focuses of the RPJMD is to reduce poverty and improve public welfare through various strategies, such as empowering low-income communities, enhancing access to education and healthcare, and creating productive and sustainable employment opportunities (Pemerintah Provinsi Jawa Tengah, 2025). However, the economic shock caused by the COVID-19 pandemic led to an increase in poverty levels, which significantly affected regional economic performance (BPS, 2025). The study by Irawan & Sulistyo (2022) found that the COVID-19 pandemic widened income inequality and increased the number of poor people, particularly in the informal sector. The decline in purchasing power weakened production sectors, preventing them from achieving optimal profits and slowing down post-pandemic economic recovery. To address this issue, the provincial government must continue to strengthen social protection policies, such as direct cash transfers and local economic empowerment programs, to stimulate household consumption and drive regional economic activity (Pahrudin et al., 2024).

The results of this study are also in line with Sustainable Development Goal (SDG) number 8, which aims to "promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all". Reducing poverty is a crucial prerequisite for achieving inclusive and sustainable economic growth because high poverty levels can limit people's access to economic opportunities and widen social inequality (Alfaris et al., 2023). Therefore, poverty alleviation efforts not only improve individual welfare but also play a key role in accelerating equitable economic growth across Central Java. Thus, the findings of this study emphasize the importance of synergy between poverty reduction policies, human resource development, and inclusive economic growth as strategic steps to support the achievement of both the RPJMD targets and the SDGs at the regional and national levels.

3.5 The Effect of the Open Unemployment Rate on Economic Growth

Based on the estimation results, the open unemployment rate variable has a coefficient value of -0.0051182 with a p-value of 0.000 < 0.05, indicating that open unemployment has a negative and significant effect on economic growth. This means that an increase in the unemployment rate reduces economic output due to lower labor productivity. This

condition reflects that the more workers who are not absorbed into the labor market, the greater the potential loss of output that could have been generated by the labor production factor. Therefore, the higher the unemployment rate in a region, the lower the level of economic growth achieved. This result is consistent with macroeconomic theory, which states that there is a negative relationship between unemployment and economic growth, as explained by Okun's Law, which posits that each increase in unemployment proportionally reduces economic growth (Mohamed, 2024).

The findings of this study are consistent with those of I. A. Putri & Soesatyo (2016), who found that rising unemployment rates negatively affect economic growth. Their study explained that when unemployment increases, people's purchasing power declines due to reduced household income, leading to decreases in aggregate consumption and investment. Consequently, production activities decline, resulting in slower economic growth. Zahari & Prabowo (2022) also support this finding by showing that unemployment leads to declines in consumption and investment, which ultimately hinder economic growth. However, different results were found by Paramita & Purbadharmaja (2015), who observed a positive relationship between unemployment and economic growth. This difference is likely due to variations in economic structure, level of development, and the effectiveness of labor market policies across countries.

A similar condition has occurred in Central Java Province. According to the Regional Medium-Term Development Plan (RPJMD) of Central Java for 2025 to 2029, one of the major challenges in regional development is the rise in unemployment caused by the economic shock of the COVID-19 pandemic. Social restrictions during the pandemic forced many companies to suspend their production activities, resulting in significant job losses across various economic sectors, particularly in manufacturing, trade, and services. Data from the Central Bureau of Statistics (BPS, 2025) show that the open unemployment rate in Central Java sharply increased in 2020 across nearly all 35 regencies and cities. This condition not only reduced people's purchasing power but also slowed the pace of regional economic growth.

To address this issue, the Central Java Provincial Government, through the RPJMD, seeks to reduce unemployment by promoting the empowerment of the informal sector and strengthening Micro, Small, and Medium Enterprises (MSMEs). Support programs for MSME actors, such as business capital assistance, entrepreneurship training, and tourism sector development, are expected to expand employment opportunities for communities affected by the pandemic as well as for new entrants to the labor force who have not yet been absorbed into the formal sector (Juhari et al., 2024). These efforts are also part of an inclusive and sustainable regional economic recovery strategy.

The unemployment reduction policy in Central Java is also aligned with Sustainable Development Goal (SDG) number 8, which aims to "promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all". SDG 8 emphasizes the importance of creating productive and decent employment as the foundation of sustainable economic growth. High unemployment rates can hinder the achievement of this goal by increasing income inequality and undermining long-term economic stability (Frey, 2017). Therefore, the findings of this study highlight the importance of policies focused on creating productive employment, improving workforce skills, and strengthening labor-intensive sectors as key strategies to enhance economic growth while supporting the achievement of Central Java's RPJMD targets and SDG 8 at both regional and national levels.

3.6 The Effect of the Human Development Index on Economic Growth

The estimation results show that the Human Development Index (HDI) variable has a coefficient value of 3.201663 with a p-value of $0.000 < 0.05$, indicating that HDI has a positive and significant effect on economic growth. This finding suggests that the higher the quality of human capital, as reflected in improvements in education, health, and living standards, the greater a region's capacity to enhance productivity and drive economic growth. An increase in HDI contributes to improving workforce skills and efficiency, strengthening regional competitiveness, and fostering sustainable innovation. This result is consistent with the view of Oltulular (2025), who stated that human development is the key to expanding people's productive capacities and achieving long-term economic growth. According to Schultz (1961), improvements in education and health represent a form of human capital investment that enhances productivity and per capita income in the future.

The results of this study are consistent with the findings of Alfaris et al. (2023), who found that HDI positively affects economic growth. Similarly, Kusno et al. (2023) discovered that improvements in HDI significantly contributed to accelerating economic growth through higher labor productivity and greater participation in the formal sector. Andini Mulyasari (2016) also emphasized that improvements in education, health, and living standards can stimulate more equitable economic development, thereby reinforcing the foundation of inclusive growth. Thus, it can be concluded that quality human development not only serves as the ultimate goal of development but also as a key instrument for accelerating sustainable economic growth.

The relationship between these findings and regional policy is evident in the Regional Medium-Term Development Plan (RPJMD) of Central Java Province for 2025 to 2029, which places improving human resource quality as the main priority of regional economic development. The Central Java Provincial Government, through various strategic programs such as expanding access to secondary and higher education, enhancing community-based healthcare services, and empowering poor and vulnerable groups, seeks to strengthen HDI as the foundation for long-term economic growth. This approach is particularly relevant, as regions with higher HDI tend to have greater productivity, higher income, and stronger economic resilience during crises.

Furthermore, this policy aligns with Sustainable Development Goal (SDG) number 8, namely "Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all." Improvements in HDI directly contribute to the achievement of SDG 8 because a healthy, educated, and productive population is a prerequisite for inclusive and sustainable economic growth. According to Sen (1999), human development not only enhances individual well-being but also expands people's economic and social freedoms, ultimately strengthening the driving force of overall economic development (Mahmud et al., 2025). Therefore, improving HDI in Central Java is not only an indicator of social progress but also a key strategy for achieving equitable, sustainable economic growth that aligns with national development goals and global commitments to the SDGs.

4. CONCLUSION

The research findings indicate that the poverty rate and unemployment rate have a negative effect on economic growth in Central Java Province, while the Human Development Index (HDI) has a positive and significant effect. This confirms that improving human development quality through access to education, healthcare, and purchasing power is a crucial factor in promoting regional economic growth, whereas high levels of poverty and unemployment remain major obstacles to accelerating economic development. These findings provide important policy implications for local governments, emphasizing the need to strengthen poverty alleviation programs, expand productive employment opportunities, and increase investment in education and healthcare to accelerate improvements in HDI. Integrated efforts to reduce social inequality and expand economic opportunities are expected to foster more inclusive and sustainable economic growth in Central Java Province. For future research, it is recommended that additional variables such as regional investment, government expenditure, and infrastructure be included in the analytical model to provide a more comprehensive understanding of the determinants of economic growth. Moreover, the application of spatial analysis methods or dynamic models could further enrich insights into interregional growth variations and economic interactions among districts and cities within Central Java Province.

REFERENCES

Alfaris, R. D., Rustam, R., & Syafri. (2023). Pencapaian Tujuan Pembangunan Berkelanjutan (Sdgs) Ke-8: Studi Kasus Di Jawa Tengah. *Journal of Comprehensive Science*, *2*(2), 493–500.

Andini Mulyasari. (2016). Pengaruh Indeks Pembangunan Manusia dan Angkatan Kerja terhadap Produk Domestik Regional Bruto. *Economics Development Analysis Journal*, *5*(4), 368–376.

Awaludin, M., Maryam, S., & Firmansyah, M. (2023). Analisis Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Pada Sektor Industri Kecil Dan Menengah Di Provinsi Nusa Tenggara Barat. *Jurnal Konstanta Ekonomi Pembangunan*, *2*(1), 156–174.

Basuki, A. T., & Prawoto, N. (2016). *Analisis Regresi Dalam Penelitian Ekonomi & Bisnis: Dilengkapi Aplikasi SPSS & EVIEWS*. PT RajaGrafindo Persada.

Bayu, L. N., & Fathoni, M. A. (2024). The Impact of Poverty, Human Development, and Zakat Contributions on Economic Growth in Indonesia and Malaysia. *KnE Social Sciences*, *2024*, 223–240. https://doi.org/10.18502/kss.v9i20.16515

Frey, D. F. (2017). Economic growth, full employment and decent work: The means and ends in SDG 8. *International Journal of Human Rights*, *21*(8), 1–22. https://doi.org/10.1080/13642987.2017.1348709

Hidayat, S., & Prabowo, P. S. (2024). The Effect of Demographic Dividend, HDI, and Population Growth on Economic Growth in East Java. *Independent: Journal of Economics*, *4*(2), 102–113. https://doi.org/10.26740/independent.v4i2.60918

Irawan, A. D., & Sulistyo, A. Q. P. (2022). Pengaruh Pandemi Dalam Menciptakan Ketimpangan Sosial Ekonomi Antara Pejabat Negara Dan Masyarakat. *Jurnal Citizenship Virtues*, *2*(1), 251–262.

Juhari, Hamdan, Nurwasya, Safitri, M., & Makrus, M. (2024). Penurunan Angka Pengangguran dan Peningkatan KesempatanKerja di Kota Pangkalpinang. *EKOMA : Jurnal Ekonomi, Manajemen, Akuntansi*, *3*(3), 1087–1099.

Kusno, H. R., Ali, H. F., & Andini, S. L. (2023). The Effect of the Human Development Index (IPM) and Absorbed Labor on Economic Growth in East Java. *Prosiding Seminar Nasional Ilmu Manajemen, Ekonomi, Keuangan Dan Bisnis*, *2*(1), 65–80.

Lambon, J. I., Ocansey, E. O. N. D., & Ababio, O. K. (2025). Influence of Poverty on Economic Growth in Sub-Saharan Africa, the Role of Financial Stability. *Archives of Business Research*, *13*(06), 120–136. https://doi.org/10.14738/abr.1306.18964

Mahmud, T. A., Untari, A. D., & Asmawi, M. (2025). Human Development Index and Sustainable Development Goals in Banten Province. *Jurnal Pemberdayaan Masyarakat*, *4*(1), 99–110. https://doi.org/10.46843/jpm.v4i1.361

Moh Muqorrobin, & Soejoto, A. (2017). Pengaruh Indeks Pembangunan Manusia (IPM) Terhadap Pertumbuhan Ekonomi di Provinsi Jawa Timur. *Jurnal Pendidikan Ekonomi*, *5*(3), 1–6.

Mohamed, A. A. (2024). Economic growth and unemployment nexus: empirical test of Okun's law in Somalia. *Journal of Economic Structures*, *13*(16), 1–12. https://doi.org/10.1186/s40008-024-00337-y

Mukhtar, S., Saptono, A., & Arifin, A. S. (2019). Analisis Pengaruh Indeks Pembangunan Manusia Dan Tingkat Pengangguran Terbuka Terhadap Kemiskinan Di Indonesia. *Ecoplan : Journal of Economics and Development Studies*, *2*(2), 77–89. https://doi.org/10.20527/ecoplan.v2i2.20

Nengsih, T. A., Yulianti, R., Kirana, S. S., Almansyah, Majid, M. N., Usdeldi, Rahma, S., & Mutia, A. (2024). Analysis Of Economic And Labor Growth On The Reduction Of The Number Of Poor Population In Jambi. *International Conference of Islamic Economics and Business 10th 2024*, 1309–1316.

Novriansyah, M. A. (2018). Pengaruh Pengangguran Dan Kemiskinan Terhadap Pertumbuhan Ekonomi Di Provinsi Gorontalo. *Gorontalo Development Review*, *1*(1), 59–73. https://doi.org/10.32507/ajei.v11i2.636

Oltulular, S. (2025). Human Capital Dynamics Are the Key to Economic Growth: Source of Value of the Future. *Economies*, *13*(8), 1–26. https://doi.org/10.3390/economies13080235

Pahrudin, Z. S., Fitri, A. N., Gusti, S. A. R., & Fadilla, A. (2024). Pemerataan Ekonomi melalui Pembagian Bantuan Langsung Tunai (BLT) di Indonesia. *Jurnal Pemberdayaan Ekonomi Dan Masyarakat*, *1*(1), 1–8. https://doi.org/10.47134/jpem.v1i1.235

Paramita, A. A. I. D., & Purbadharmaja, I. B. P. (2015). Pengaruh Investasi Dan Pengangguran Terhadap Pertumbuhan Ekonomi Serta Kemiskinan Di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, *4*(10), 1194–1218. https://ojs.unud.ac.id/index.php/eep/article/view/15889

Pemerintah Provinsi Jawa Tengah, B. (2025). *RPJMD Provinsi Jawa Tengah Tahun 2025-2029*.

Ponto, V. M. (2023). Peningkatan Produktivitas Dalam Rangka Mewujudkan Pekerjaan Layak dan Pertumbuhan Ekonomi (Tujuan ke-8 Sustainable Development Goals). *Cendekia Niaga*, *7*(1), 85–96. https://doi.org/10.52391/jcn.v7i1.792

Pratama, A. G. K., & Darsana, I. B. (2019). Pengaruh Kemiskinan Dan Investasi Terhadap Pertumbuhan Ekonomi Dan Kesejahteraan Masyarakat. *E-Journal Ekonomi Pembangunan Universitas Udayana*, *8*(6), 1300–1330.

Putri, E. F. S., Arafat, L. O. A., Utami, A. F., & Nisa, F. L. (2024). Pengaruh Tingkat Kemiskinan Dan Tingkat Pengangguran Terbuka Terhadap Pertumbuhan Ekonomi Di Provinsi Jawa Timur. *Jurnal Ilmiah Wahana Pendidikan*, *10*(20), 292–304.

Putri, I. A., & Soesatyo, Y. (2016). Pengaruh Tingkat Pendidikan dan Tingkat Pengangguran Terhadap Pertumbuhan Ekonomi Kota Surabaya. *Jurnal Pendidikan Ekonomi (Jupe)*, *4*(3), 1–7.

Puttitanun, T., & Lerskullawat, A. (2025). Human development and economic growth: who benefits the most? *Applied Economics*, *00*(00), 1–18. https://doi.org/10.1080/00036846.2025.2558238

Utami, F. P. (2020). Pengaruh Indeks Pembangunan Manusia (IPM), Kemiskinan, Pengangguran Terhadap Pertumbuhan Ekonomi di Provinsi Aceh. *Jurnal Samudra Ekonomika*, *4*(2), 101–113. https://journal.lppmunindra.ac.id/index.php/sosio_ekons/article/view/5846/3104

Wicaksono, M. N. (2014). Analisis Pengaruh Indeks Pembangunan Manusia, Angkatan Kerja, dan Belanja Modal Daerah terhadap Peningkatan PDRB Provinsi di Indonesia Tahun 2008-2012. *Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya*, *3*(1), 1–20. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/1418

Zahari, R. D., & Prabowo, P. S. (2022). Pengaruh Kemiskinan dan Pengangguran terhadap Pertumbuhan Ekonomi Wilayah Mataraman Provinsi Jawa Timur. *Jurnal Dinamika Ekonomi Pembangunan*, *5*(2), 106–117. https://doi.org/10.33005/jdep.v5i2.402