

THE INFLUENCE OF HUMAN DEVELOPMENT INDEX ON COMMUNITY WELFARE: THE ROLE OF INDONESIA'S ECONOMIC GROWTH

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Abstract

This study aims to analyze the influence of Human Development Index (HDI) components on Indonesia's economic growth in 2023. The HDI comprises three main indicators: Life Expectancy (LE), Mean Years of Schooling (MYS), and Expenditure per Capita (EC). A descriptive quantitative approach was employed, using multiple linear regression based on cross-sectional data from 34 Indonesian provinces. The results show that MYS has a positive and significant effect on economic growth, indicating that improvements in education quality directly contribute to labor productivity and efficiency. Conversely, EC has a negative and significant effect, suggesting that current consumer spending is not being channeled into productive sectors. Meanwhile, LE, for both males and females, does not have a significant effect on economic growth. The coefficient of determination (R^2) is 11.6%, indicating that most of the variation in economic growth is explained by other external factors. These findings highlight that while education plays a significant role, the health and standard of living indicators have yet to optimally support economic growth. Therefore, a comprehensive and integrated policy synergy across the three HDI indicators is essential to improve societal welfare and promote inclusive and sustainable economic growth in Indonesia.

Keywords: Human Development Index, Economic Growth, Education, Health, Expenditure per Capita

INTRODUCTION

Economic development is a continuous effort aimed at creating better living conditions. According to the United Nations Development Programme (UNDP) in the Human Development Report 2023/2024, the primary objective of economic development is to create an environment where people can become more productive, supported by good health and longevity. In this development process, all aspects both social and economic are involved and used as references (Abdillah & Ramadhan, 2023), in which humans play a central role, not only as beneficiaries but also as active contributors to its realization.

The indicators used to measure the success of economic development have evolved over time. In a study by Santika et al. (2022), it is explained that initially, a country's or region's economic development was measured solely by its economic growth rate, without considering other factors. However, since 1990, the UNDP introduced a new approach that incorporates broader indicators of human well-being, such as poverty levels, income inequality among regions, education levels, and health conditions (Mongan, 2019).

The Human Development Index (HDI) is a concept developed by the UNDP to reflect societal well-being. It indicates the extent to which people in a country or region are able to enjoy the results of development in terms of income, education, health, and more (Muda et al., 2019). Additionally, according to Statistics Indonesia (Statistics Indonesia, 2023), the HDI can be used to assess the success of physical development and the quality of human life in a particular country or region.

In Mongan's (2019) study, the HDI is described as a composite measure of three dimensions closely linked to human development: health, education, and standard of living. According to Meilinna et al. (2024), these three dimensions represent vital aspects of human quality of life. Life

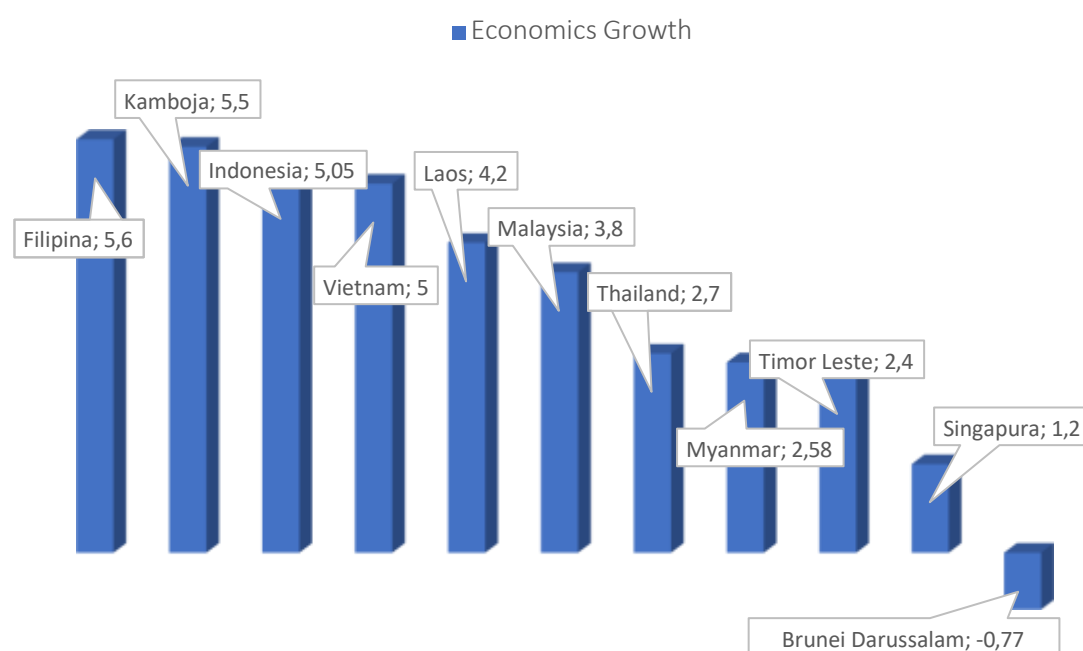
expectancy, which serves as the health indicator, reflects the average length of life and indicates access to healthcare services and sanitation conditions in a country or region. The education indicator is measured through mean years of schooling and expected years of schooling, which represent access to education and reflect the quality of the education system. Meanwhile, standard of living is measured by expenditure per capita, which can also be used to assess people's purchasing power.

Theoretically, as stated in Hasibuan et al. (2023), an increase in the HDI can drive improvements in its three constituent indicators, provided they develop optimally and linearly with one another. In other words, there must be a two-way causal relationship among the indicators to produce maximum impact that is felt by society. According to Statistics Indonesia (2023), the mean years of schooling refers to the average number of years of education completed by individuals aged 25 and above in formal education. Life expectancy, on the other hand, is defined as the average number of years a person is expected to live, influenced by factors such as genetics, environment, lifestyle, illness, and overall well-being. Expenditure per capita measures the average amount spent per person and also reflects levels of consumption and purchasing power within a population.

Mongan (2019) also explains that improving human quality of life has an impact on the economic growth rate of a country or region. Furthermore, economic growth itself serves as an indicator of public welfare, referring to the increased capacity of an economy to produce goods and services on a sustained basis over a specific time period (Paksi, 2020). Generally, economic growth not only measures the increase in goods and services and improvements in living standards during a certain period, but also serves as a benchmark for evaluating the effectiveness of government economic policies.

In 2023, Indonesia's economic growth reached 5.05%, which can be categorized as good (Statistics Indonesia, 2023). However, this figure is slightly lower than in 2022, when the growth rate stood at 5.31%. In comparison to other Southeast Asian countries, Indonesia still performed relatively well. According to projections by the World Bank and International Monetary Fund, Indonesia ranked third out of 11 Southeast Asian countries. With a growth rate of 5.05%, Indonesia was behind the Philippines (5.60%) in first place and Cambodia (5.50%) in second place. Below is the economic growth data for Southeast Asia in 2023:

Figure 1. Economic Growth of Southeast Asian Countries in 2023 (in Percentages)

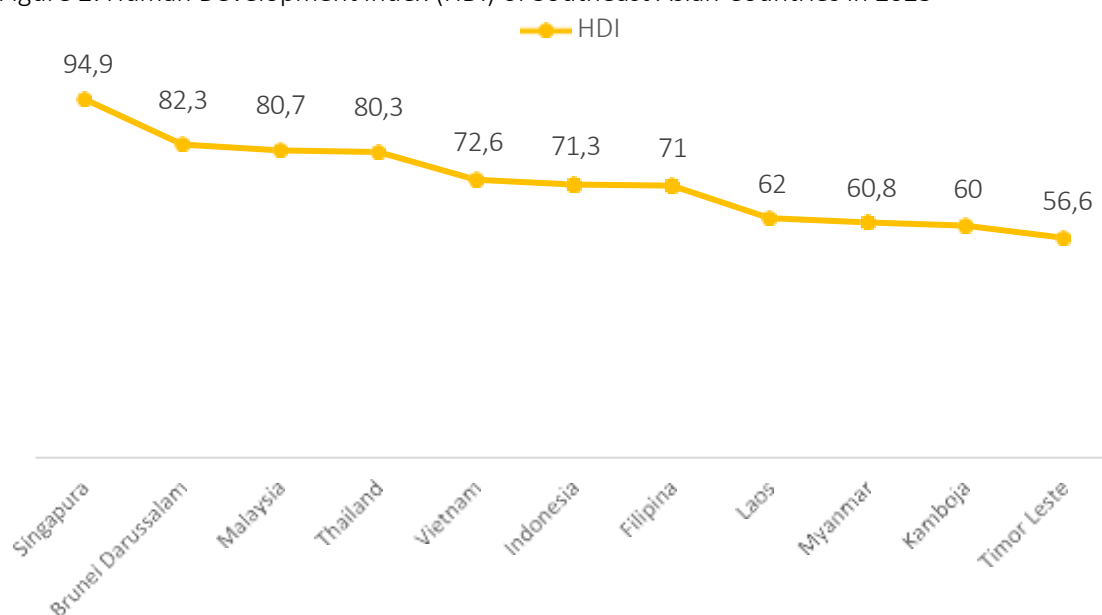


Source: World Bank (2024)

Moreover, Indonesia's relatively strong economic growth was not accompanied by a

comparable level of Human Development Index (HDI) in 2023. According to data from Statistics Indonesia (Statistics Indonesia, 2023), Indonesia's HDI stood at 74.39. The breakdown of this figure includes: Life Expectancy at Birth of 73.39 years, Expected Years of Schooling for children aged 7 at 13.15 years, Mean Years of Schooling for those aged 25 and above at 8.77 years, and Per Capita Expenditure of 11,470.32 thousand Rupiah. When compared with other Southeast Asian countries, Indonesia ranks sixth out of eleven countries in terms of HDI. This position is clearly not proportional to Indonesia's economic growth ranking, which is third in the region. The following is the Human Development Index (HDI) data for Southeast Asian countries:

Figure 2. Human Development Index (HDI) of Southeast Asian Countries in 2023



Source: *United Nations Development Program (UNDP) (2024)*

Based on Figure 2, Indonesia's HDI remains below that of Singapore, Brunei Darussalam, Malaysia, Thailand, and Vietnam. This position indicates that Indonesia has not yet fully optimized its efforts to improve the HDI in 2023. On the other hand, strong economic growth presents an opportunity for Indonesia to achieve more equitable outcomes across the three HDI indicators: health, education, and standard of living.

Thus, the phenomenon of a seeming disconnect between economic growth and the Human Development Index (HDI) becomes an important issue addressed in this study. According to Paksi (2020), economic growth and HDI can influence each other in a mutually reinforcing manner. Therefore, based on this premise, the researcher aims to examine the influence of the Human Development Index (HDI) on Indonesia's economic growth, focusing on its three main indicators in 2023: Life Expectancy, Mean Years of Schooling, and Per Capita Expenditure. The goal is to present an analytical view of the relationship and impact between these variables.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Previous studies have shown a complex relationship between the Human Development Index (HDI) and economic growth. Research by Endang et al. (2024) indicates that the Health Index and Expenditure per Capita Index have a positive and significant effect on economic growth, while the Education Index has a negative effect. In line with this, a mutually reinforcing two-way relationship between HDI and economic growth was also found (Suri et al., 2011). Based on these findings, economic growth plays an important role as a mediator in promoting societal welfare through the HDI. Positive economic growth in a country or region not only leads to an increase in Gross Domestic Product (GDP), but also creates significant ripple effects on various aspects of social life and broader public welfare (Nitami et al., 2023).

Based on the problems, objectives, and previous studies, the researchers formulated five hypotheses to determine the effect of Human Development Index (HDI) components on Indonesia's economic growth, as follows:

H1: Male Life Expectancy has a positive and significant effect on Economic Growth

H2: Female Life Expectancy has a positive and significant effect on Economic Growth

H3: Average Years of Schooling has a positive and significant effect on Economic Growth

H4: Expenditure per Capita has a positive and significant effect on Economic Growth

H5: Life Expectancy, Average Years of Schooling, and Expenditure per Capita simultaneously have a significant effect on Economic Growth

RESEARCH METHODS

This study employs a quantitative descriptive analysis approach using secondary data sourced from the Central Bureau of Statistics. The data include variables such as Life Expectancy (LE), Mean Years of Schooling (MYS), and Expenditure per Capita (EC) across 34 provinces in Indonesia for the year 2023. For the data analysis, the study utilizes multiple linear regression based on cross-sectional data, which is suitable for identifying the influence of independent variables on the dependent variable. Given that the variables are expressed in different units' percentage, years, and thousand Rupiahs, the data were transformed into logarithmic (LOG) form to ensure greater accuracy and precision in the results. The regression model equation used in this study is as follows:

$$EG_t = \beta_0 + \beta_1 MLE_t + \beta_2 FLE_t + \beta_3 MYS_t + \beta_4 EC_t + e$$

Explanation:

EG_t = Economic Growth (%)

MLE_t = Male Life Expectancy (Years)

FLE_t = Female Life Expectancy (Years)

MYS_t = Mean Years of Schooling (Years)

EC_t = Expenditure per Capita (Thousand Rupiah)

β_0 = Intercept of the Regression Line

β_1 = Regression Coefficient of Male Life Expectancy

β_2 = Regression Coefficient of Female Life Expectancy

β_3 = Regression Coefficient of Mean Years of Schooling

β_4 = Regression Coefficient of Expenditure per Capita

e = Error Term (Disturbance Variable)

RESULTS AND DISCUSSION

Multiple Linear Regression Analysis

Normality Test

In this study, the normality test was conducted by comparing the Kolmogorov-Smirnov significance value to the alpha level (0.05). If the significance value (Sig.) is greater than α (0.05), the data are considered to be normally distributed. Based on the data analysis results, the Sig. values for all variables were greater than α (0.05), indicating that the research data are normally distributed.

Classical Assumption Tests

a. Multicollinearity Test

The Variance Inflation Factor (VIF) values from the Economic Growth regression equation show the following results for each variable: MLE (436.529), FLE (430.350), MYS (1.499), and EC (2.244). Based on these results, two variables have VIF values greater than 10, indicating the presence of multicollinearity in the model. Meanwhile, the other two variables have VIF values less than 10, suggesting that there are no signs of multicollinearity for those variables.

b. Heteroscedasticity Test

The significance (Sig.) values of each independent variable used to test the presence of heteroscedasticity in the regression model are as follows: MLE (0.580), FLE (0.620), MYS (0.017), and EC (0.037). Based on these results, two variables have Sig. values greater than α (0.05), indicating that there is no heteroscedasticity problem in the regression model for those variables. Meanwhile, the other two variables have Sig. values less than α (0.05), indicating the presence of heteroscedasticity.

c. Autocorrelation Test

Using the LM Test, the Sig. F value is 0.110, which is greater than α (0.05), indicating that there is no autocorrelation in the Economic Growth equation.

Regression Model Estimation

Table 1. Regression Analysis of the Economic Growth Equation

Variable	Coefficient
C	1,988
MLE	19,250
FLE	-18,388
MYS	1,798
EC	-1,020

Source: Processed Secondary Data (2025)

Regression Model:

$$\widehat{EG_t} = 1,988 + 19,250MLE_t - 18,388FLE_t + 1,798MYS_t - 1,020EC_t + e$$

Coefficient of Determination (R^2)

Based on the estimation results, the R^2 value of the Economic Growth equation is 0.116, which means that the variation in the variables of Male Life Expectancy, Female Life Expectancy, Mean Years of Schooling, and Expenditure per Capita contributes 11.6 percent to the Economic Growth variable, while the remaining 88.4 percent is influenced by other variables not included in the equation.

Hypothesis Testing

a. t-Test

The t-test is conducted by formulating the null hypothesis (H_0) and the alternative hypothesis (H_a), which can either be accepted or rejected. If the value of t-statistic > t-table, then H_0 is rejected and H_a is accepted, and vice versa. The following are the t-test results for the Economic Growth equation:

Table 2. t-Test ($\alpha = 0.025$) for the Economic Growth Equation

Variable	t-statistic	t-table	Sig.	Notes
MLE	0,560	2,034	0,755	Not Significant
FLE	-0,502	2,034	0,580	Not Significant
MYS	2,540	2,034	0,017	Significant
EC	-2,181	2,034	0,037	Significant

Source: Processed Secondary Data (2025)

Hypothesis 1

$H_0: \beta < 0$: Male Life Expectancy does not have a positive and significant effect on Economic Growth

$H_a: \beta > 0$: Male Life Expectancy has a positive and significant effect on Economic Growth

Based on Table 2, the calculated t-statistic for MLE is 0.560, while the critical t-table is 2.034. Since $t\text{-statistic} < t\text{-table}$, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected. This indicates that Male Life Expectancy has a positive, yet not statistically significant, effect on Economic Growth.

Hypothesis 2

$H_0: \beta < 0$: Female Life Expectancy does not have a positive and significant effect on Economic Growth

$H_a: \beta > 0$: Female Life Expectancy has a positive and significant effect on Economic Growth

Based on Table 2, the calculated t-statistic for FLE is -0.502, while the critical t-table is ± 2.034 . Since the t-statistic is greater than the negative t-table (but still not exceeding the positive threshold), H_0 is accepted and H_a is rejected. This result indicates that Female Life Expectancy does not have a positive and significant effect on Economic Growth.

Hypothesis 3

$H_0: \beta < 0$: Mean Years of Schooling does not have a positive and significant effect on Economic Growth

$H_a: \beta > 0$: Mean Years of Schooling has a positive and significant effect on Economic Growth

Based on Table 2, the calculated t-statistic for MYS is 2.540, while the critical t-table is 2.034. Since $t\text{-statistic} > t\text{-table}$, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This indicates that Mean Years of Schooling has a positive and significant effect on Economic Growth.

Hypothesis 4

$H_0: \beta < 0$: Expenditure per Capita does not have a positive and significant effect on Economic Growth

$H_a: \beta > 0$: Expenditure per Capita has a positive and significant effect on Economic Growth

Based on Table 2, the calculated t-statistic for EC is -2.181, while the critical t-table is ± 2.034 . Since $t\text{-statistic} < -t\text{-table}$, H_0 is rejected and H_a is accepted. However, the negative t-value indicates that Expenditure per Capita has a negative and significant effect on Economic Growth, contrary to the expected direction of the hypothesis.

b. F-test

The F-test is conducted by formulating the null hypothesis (H_0) and the alternative hypothesis (H_a), where H_0 is rejected and H_a is accepted if the F-statistic is greater than the F-table. Otherwise, H_0 is accepted and H_a is rejected. Based on the regression results, the F-statistic for the Economic Growth equation is 2.077, while the F-table value is 2.69. Since $F\text{-statistic} < F\text{-table}$, the null hypothesis is accepted and the alternative hypothesis is rejected. This indicates that Male Life Expectancy, Female Life Expectancy, Mean Years of Schooling, and Expenditure per Capita, when considered simultaneously, do not have a significant effect on Economic Growth.

DISCUSSION

According to the study by Paksi (2020), economic growth and the Human Development Index (HDI) are two interrelated economic indicators that exhibit a "Mutually Reinforcing" relationship. This implies that improvements in the HDI can stimulate economic growth in a country or region. For instance, enhancements in the education sector, such as a higher average length of schooling reflect better skills and knowledge among the population, thereby increasing labor efficiency and driving innovation. Likewise, improvements in the health sector can lead to a healthier population that is more productive and has better work capacity, thus making a significant contribution to the economy (Mongan, 2019).

However, based on the data analysis of the four variables used in this study, the results vary. Male Life Expectancy (MLE) has a positive but statistically insignificant effect on economic growth, meaning that while increases in MLE are linearly associated with economic growth, the impact is not statistically strong. In contrast, Female Life Expectancy (FLE) shows a negative and also insignificant effect, indicating that this variable does not make a meaningful contribution to economic growth. Additionally, the other two variables exhibit stronger significance compared to the health-related variables. Mean Years of Schooling (MYS) has a positive and significant effect, meaning that increases in MYS directly contribute to economic growth. On the other hand, Expenditure per Capita (EC) has a negative but significant effect, indicating that as EC increases, economic growth tends to decline.

The low coefficient of determination (R^2), which only contributes 11.67 percent, further highlights the issues in the relationship between HDI and economic growth in Indonesia. This indicates that among the three HDI components used as influencing variables for economic growth, only a small portion has an effect, while the majority of the impact is attributed to other variables. Clearly, this situation reflects that among the three HDI aspects, only the education component is operating near optimal levels. In contrast, the Standard of Living aspect, particularly Expenditure per Capita which shows a negative effect, suggests that household spending is not being directed productively, thus failing to make an optimal contribution. Meanwhile, the health aspect still requires substantial improvement and support in order to advance and deliver benefits to all segments of society, so that it can more effectively contribute to economic growth.

Therefore, the Indonesian government must maximize efforts to improve the Human Development Index (HDI), as it reflects the level of public welfare achieved through the implementation of social and economic policies. Furthermore, the three HDI components should work synergistically and be developed in a linear manner, such as by strengthening the education sector, integrating the health sector, and optimizing household expenditure so it can play a significant role in driving economic growth.

CONCLUSION

The findings indicate that the education aspect, particularly Mean Years of Schooling, plays a crucial role in Indonesia's economic growth. Meanwhile, the other two aspects health and standard of living have yet to contribute optimally. This suggests the need for more prudent and targeted policies to enhance the effectiveness and efficiency of all three HDI components in supporting economic growth.

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