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Analysis of The Influence of Human Development Index (HDI), Economic Growth and Government Expenditure

Maximiliane Leonora Cornelia Hukom[1], Samie Lambert Jacobs [2]
[1] Universitas Kristen Indonesia Maluku, Ambon, Indonesia
[2] College Administrative Sciance
[1]e-mail: nanehukom@gmail.com, [2]samiejacobs18@g.mail.com

Abstract

Based on the background description presented, the formulation of the problem that is the focus of the research is as follows: do economic growth, human development index, and government spending affect poverty, and do economic growth, human development index, and government spending simultaneously affect poverty in Regencies/Cities in Maluku Province? This study aims to analyze and determine whether economic growth, the human development index, and government spending affect poverty and to analyze and determine whether economic growth, the human development index, and government spending simultaneously affect poverty in regencies/cities in Maluku Province. This study is expected to be a reference for local governments in towns/regencies in Maluku Province to consider making policies related to managing government spending through the quality of economic growth in improving community welfare. It is also a consideration in formulating regional expenditure policies about fiscal decentralization to accelerate development and create a prosperous society free from poverty. The research method used in this study is quantitative research using multiple linear regression analysis techniques with the Ordinary Least Square (OLS) model.

Keywords: Economic Growth, Human Development Index, Government Spending and Poverty.

INTRODUCTION

Welfare is something that every society desires. Therefore, economic development is an effort made by the government to achieve social welfare through economic development (Marini, 2016). The point is that economic development is a process that refers to various changes in the social structure of society and seeks to accelerate economic growth, reduce income differences, and reduce poverty. The primary consideration in choosing a development strategy or instrument is its ability to reduce poverty (Simatupang, 2003). The poverty level has become the main thing from the basis of development and a tool to measure the impact of implementing various development plans.

Poverty is the inability of a person or group of people to achieve economic prosperity, which is the minimum requirement for a certain standard of living. In other words, poverty can be interpreted as a person's condition and cannot reflect the needs and quality of life (Putri, Juanidi, and Mustika, 2019). Maluku Province is included in the poverty category and is below the poverty line, ranked 4th out of 38 provinces in Indonesia. The percentage of poverty in 2019 amounted to 17.85% of the population of Maluku living below the poverty line. In 2020, it was 17.44%; in 2021, it increased again by 17.87, but in 2022 and 2023, the percentage of poor people in Maluku province decreased to 16.42%.

Ambon City has the lowest poverty rate percentage in 2023 at 5.25%, while the area with the highest poverty rate in 2023 is Southwest Maluku Regency at 28.78%. This shows that Maluku Province is experiencing an economic inability to meet basic food needs, and not only is food measured but also from the expenditure side. This can be seen from the recognition of the Head of the Maluku Province Statistics Center that this happened because of the increase in fuel prices, which caused the prices of necessities to increase so that it was difficult for the community to increase their family income (Head of the Maluku Province BPS Asep Riyadi in Ambon, 2023).

High economic growth is the prosperity of production factors that create wealth; the higher the economic growth rate, the higher the productivity of these production factors. If the level of economic activity is higher than previously achieved, the economy can be said to be growing or developing (Kuncoro, 2003). Economic growth in Maluku Province is supported by the agricultural and fisheries sectors, the mining and excavation sectors, and the trade and construction sectors (BPS, 2022).

In this case, the quality of human resources can be reflected in the Human Development Index (HDI). HDI has several vital indicators: Health, Education, and income (Ardiansyah DP and Pramono, 2019). Low HDI

will affect community performance, which in turn will result in low income. According to the Central Statistics Agency (BPS), the economic growth of Maluku Province from 2018 to 2023 continues to increase. Maluku's HDI increases by an average of 0.65% per year (BPS Maluku 2023).

The Human Development Index in Maluku Province from 2013 to 2023 has continuously increased. The Human Development Index of Maluku Province in 11 Regencies/Cities of 68.19% continues to increase to 69.71% in 2022. This is because the increase in the Human Development Index of Maluku in 2021 occurred in all dimensions: longevity and healthy living, knowledge, and decent living standards. This is different from the increase in the Human Development Index of Maluku in 2020, which was only supported by the rise in the dimensions of longevity and healthy living and the knowledge dimension, while the dimensions of the standard of living Longevity and healthy living and the knowledge dimension, while the dimensions of decent living standards decreased. The increase in the Human Development Index in 2022 reached 69.71% because it accelerated from the previous year. All dimensions of the Human Development Index have increased, especially longevity, healthy living, and decent living standards.

In addition to economic growth and HDI, the government also plays a vital role in supporting poverty. The influence of the government is significant in making decisions or policymakers biased toward the less fortunate. Although the economy is growing rapidly, the less fortunate cannot feel it without government intervention because the market is not working perfectly (Izzati, 2018). According to the Central Statistics Agency (BPS), the government spending of Maluku Province has consistently increased every year. The increase in spending is comparable to the infrastructure development in all regencies/cities in Maluku Province, which will start to improve.

METHOD

This study uses the Multiple Linear Regression Analysis technique with the Ordinary Least Square (OLS) model with the help of the IBM SPSS (Statistic Program For Social Science) version 26.0 data processing computer program. OLS analysis explains how to achieve estimation results that are close to the truth of reality in this study on economic growth, HDI, and government spending as independent variables with poverty as the dependent variable. The form and equation of multiple regression for this analysis population are as follows:

$$KMSKN = \beta 0 + \beta 1\ PRTEK + \beta 2\ IPM + \beta 3\ BP + e$$

Information:

KMSKN	= Poverty Rate (%)
PRTEK	= Economic Growth (%)
IPM	= Human Development Index (%)
BP	= Government Spending (Rp)
$\beta 0$	= Constant
$\beta 1, \beta 2, \beta 3$	= Regression Coefficient (Increase or decrease value)
e	= Error or residual

The normality test determines whether the data from the dependent and independent variables used in the study are typically distributed (Suliyanto, 2011). The autocorrelation test determines whether there is a deviation from the classical autocorrelation assumption, namely the correlation between the residuals of the variables in the regression model (Suliyanto, 2011). The multicollinearity test determines whether the regression model is related to the independent variable (Suliyanto, 2011). The heteroscedasticity test seeks to determine whether the variance of the residuals from one observation to another in the regression model is similar (Suliyanto, 2011). Determinant Coefficient Test (R Square) The correlation coefficient test measures how far the model can explain the variation of the dependent variable (Suliyanto, 2011). The F test is used to determine whether or not the

independent variables have a significant effect simultaneously on the dependent variable (Suliyanto, 2011). The t-test is an individual or partial statistical test used to determine the impact of each independent variable on the dependent variable (Suliyanto, 2011).

RESULTS AND DISCUSSION

Table 1.
Normality Test (One Sample Kolmogorow Sminow Test)

Asymp Sig (2-tailed)	,200[cd]

The number 0.200 in the Kologorov-Smirnov test results table indicates the probability that the difference between the data distribution and the normal distribution occurs by chance, meaning that a significance value of 0.200 can be obtained. In statistical testing, the significance level (α) is 0.05, meaning a 5% risk of rejecting the null hypothesis (H0), which states that the data is usually distributed.

Autocorrelation Test

Results of autocorrelation testing with the Durbin Watson test (DW Test):

a. Number of samples (n) = 12
b. Number of independent variables (k) = 3
c. Significance level (α) = 0,05
d. dL = 0,6572; dU = 1,8640; 4-dU = 2,136; 4-dL = 3,3428
e. Durbin Watson Value = 1,969

These results indicate that the DW value is between the upper limit (dU) and the 4-upper limit (4-dU), meaning there is insufficient evidence to conclude autocorrelation in the regression model.

Table 2.
Multicollinearity Test Multicollinearity Test

Variable	Tolerance	Provisions	VIF	Provisions
Economic Growth (X1)	0,911	≥ 0,10	1,097	≥ 0,10
IPM (X2)	0,680	≥ 0,10	1,471	≥ 0,10
Government Spending (X3)	0,689	≥ 0,10	1,452	≥ 0,10

The analysis results from Table 2 show that when the VIF value of all independent variables in the model is less than 10, there is no significant multicollinearity problem. This means that the independent variables in the model are not too correlated, so the regression coefficient estimate can be considered reliable.

Table 3.
Heteroscedasticity Test

Variable	Significance 2-Tailed Sig.	Provisions	Info
Economic Growth (X1)	0,983	≥ 0,05	No heteroskedasticity
IPM (X2)	0,829	≥ 0,05	No heteroskedasticity
Government Spending (X3)	0,863	≥ 0,05	No heteroskedasticity

The results of the heteroscedasticity test in Table 3 show that because the 2-tailed Sig value for the economic growth variables (X1), HDI (X2), and government spending (X3) is more than 0.05, the regression model used does not exhibit heteroscedasticity.

Table 4.
Multiple Linear Regression Test

Model		Unstandardized Coefficients	
1	(Constant)	6,101	4,170
	Economic Growth	,056	,019
	IPM	,207	,065
	Government Spending	-4,059E-6	,000

By using the SPSS test, it is known that the regression equation of the constant value and regression coefficient is as follows:

KMSKN = 6,101 + 0,056 PRTEK + 0,207 IPM – 4,059000000 BP + e

Thus, based on the regression equation, it can be explained as follows:

ß0: Constant value of 6.101

This means that the constant value of 6.101 is often considered the fundamental value or intercept of the regression line. If all independent variables (Economic growth (X1), Human Development Index (X2), and Government spending (X3)) are zero, then the poverty rate (Y) will increase by 6.101%. In economics, it is impossible for economic growth, the human development index, and government spending to be zero simultaneously. Thus, the constant of 6.101 shows that if all independent variables are considered constant, the poverty rate will increase by 6.101%.

ß1 : Regression Coefficient X1 (ß1) : PRTEK = 0.056

This means a 0.056% increase will follow every 1% increase in economic growth (PRTEK) in the poverty rate. This means that higher economic growth is not always directly proportional to a decrease in poverty in the context of the regression model. The value of 0.056 indicates that the effect of economic growth on poverty is relatively small, meaning that other factors not included in the model may have a more significant impact on the poverty rate. Thus, this shows a positive relationship between economic growth and poverty.

ß2 : Regression Coefficient X2 (ß2) : HDI = 0.207

This means that these results indicate a positive relationship between the Human Development Index (HDI) and the poverty rate, meaning that the higher the HDI of a region, the higher the poverty rate in that region tends to be. The effect of the coefficient value of 0.207 indicates that every 1% increase in the HDI will be accompanied by a 0.207% increase in the poverty rate, assuming other variables (economic growth and government spending are constant. Thus, this shows a positive relationship between the HDI and Poverty.

ß3: Regression Coefficient X3 (ß3): BP = -4.059000000

The results of the regression calculation indicate a negative relationship between government spending (x3) and the poverty rate (Y), meaning that the higher the government spending, the lower the poverty rate tends to be. If the absolute value of the coefficient is 4.059, then if government spending increases by 1%, the poverty rate is estimated to decrease by 4.059%. If the negative relationship between government spending and poverty is consistent and strong, it can be concluded that increasing government spending can be an effective strategy to reduce poverty.

Table 5.
Determinant Coefficient Test Results

Model	R	R Square	Adjusted R Square
1	0,986	0,973	0,963

Table 5 shows the results of the determination coefficient test calculation, which show that the R Square value is 0.973 or 97.3%. This means that economic growth (X1), the Human Development Index (X2), and Government spending (X3) have a powerful relationship with poverty (Y), namely 97.3%. In comparison, the remaining 2.7% is influenced by other variables not included in this study.

F Test

Table 6.
F Test

Model		Sum of Square	Df	Mean Sguare	F	Sig
1	Regression	41,747	3	13,916	95,579	,000[b]
	Residual	1,165	8	,146		
	Total	42,912	11			

The results of the F test analysis show that economic growth, the Human Development Index, and government spending simultaneously significantly affect poverty. This can be seen that the significance of 0.000 ≤ 0.05. F count of 95.579 ≥ F Table of 4.07 means that the independent variables (Economic Growth, Human Development Index, and Government Spending) simultaneously have a significant effect on the dependent variable (Poverty).

Table 7
Partial t-test

Variabel	t count	t table	Sig
Economic Growth (X1)	2,968	2,306	0,018
IPM (X2)	3,176	2,306	0,013
Government Spending (X3)	-15,652	2,306	0,000

Table 7 explains that economic growth significantly affects poverty; this can be seen from the calculated t value for the economic growth variable of 2.968 while the sig value (α/2 = 0.0250) with df = 8 obtained from the t table is 2.306. Thus, the t-test results show the calculated t value of 2.968 ≥ t table 2.306, so H0 is rejected, and H1 is accepted with a significance value of 0.018 ≤ 0.05. This means that economic growth has a significant effect on poverty. From the calculation results, it can also be seen that the calculated t value of 3.176 ≥ t table 2.306 shows that H0 is rejected and accepts H1 with a significant value of 0.013 ≤ 0.05, which means that the Human Development Index (HDI) has a significant effect on poverty. Likewise, the calculation results in Table 7 also demonstrate that partially or individually, the t count of the government spending variable is -15.652 while the sig value (α/2 = 0.0250) with df = 8 obtained from the t table is 2.306, where the calculation results show that the t count value of -15.652 ≥ t table of 2.306 so that H0 is rejected and H1 is accepted, meaning that with a significant value of 0.000 ≤ 0.05, economic growth has a significant effect on poverty.

Discussion

Economic Growth on Poverty

According to the test that has been conducted, the significance value of 0.018 ≤ 0.05 indicates that the effect of economic growth on poverty in Maluku province for the period 2013 - 2023 is significant, with an indication that the higher the economic growth, the poverty rate tends to increase.

The economic growth in Maluku may be enjoyed more by specific communities, so it cannot reach people with low incomes. This can happen if economic growth is dominated by capital-intensive sectors that absorb less labor. Although economic growth occurs, the distribution of income may be uneven. High income inequality can cause most of the benefits of economic growth to be enjoyed only by the rich while the poor are increasingly left behind. The economic structure in Maluku province is also still very dependent on the primary sector (agriculture, fisheries), which is vulnerable to price fluctuations and natural disasters, so it can make it increasingly difficult for the poor to escape the poverty trap.

The results of this study align with research conducted by (Evita and Primadana, 2022) that economic growth has a positive and significant influence on poverty; if economic development increases, poverty also increases, where the leading cause is the inequality of development in alleviating poverty. The same thing is also true of research conducted by (Siregar and Wahyuniarti, 2008) that economic growth is one of the indicators in measuring regional development and can overcome the problem of poverty reduction; this occurs if the results of economic growth are well distributed in every group of society, especially in the poor population.

Human Development Index on Poverty

The significance value of 0.018 is less than 0.05, indicating that the relationship between the Human Development Index (HDI) and poverty in Maluku province is significant, meaning that changes will follow changes in the HDI in the poverty rate. The test results showed that the positive regression coefficient of 0.207 indicates that when the HDI increases by 1%, the poverty rate also increases by 0.207%. Therefore, the results of this study suggest that HDI is significantly related to poverty; this shows that there are still many challenges that must be overcome to reduce poverty in Maluku province.

The results of this study are in line with research conducted by (Dharmmayukti, Rotinsulu, and Niode, 2021), explaining their research that the Human Development Index has a positive and significant effect on poverty where if the Human Development Index increases/increases, poverty will also increase. HDI is a composite measure used to measure the achievement of Human Development in a region. HDI consists of three main dimensions: Health, education, and standard of living. If the HDI of an area is low or there is a significant gap between regions, this indicates inequality in access to essential services and economic opportunities. Therefore, the HDI gap and the inability of Human Development to lift the entire community above the poverty line are complex and require integrated solutions. The government, society, and the private sector must work together to address this problem and realize inclusive and sustainable Development.

Government Spending on Poverty

The test results of this study show that government spending, partially or individually, significantly affected poverty in Maluku Province in 2013 - 2023. The regression coefficient value of -4.05000000 indicates a negative relationship between the two variables, meaning that the higher the government spending, the lower the poverty rate. And if every 1% increase in government spending is projected to reduce the poverty rate by 4.05%. This study provides strong empirical evidence of the critical role of government spending in reducing poverty in Maluku Province. The study results also form the basis for local governments to formulate more effective policies in achieving Sustainable Development goals, especially regarding poverty alleviation.

This study also aligns with research conducted by several previous researchers (Izzati, 2018; Ketaren, 2018), whose research results show that government spending negatively and significantly affects poverty. If government spending increases, the poverty rate will decrease. He says government spending, such as in the infrastructure sector, is significant because it can reduce poverty rates.

Economic Growth, Human Development Index and Government Spending Simultaneously on Poverty.

According to the results of the study, with a significance level of 0.000 ≤ 0.05 and a calculated F of 95.579 ≥ F table of 4.07, H0 is rejected, and H1 is accepted, so it can be concluded that economic growth, the Human Development Index and government spending simultaneously have a significant effect on poverty in Maluku Province. This study has implications for development policies in Maluku Province, where economic growth, the Human Development Index, and government spending are key factors in reducing poverty. The government must continue to strive to increase economic growth, improve the quality of human resources by increasing the Human Development Index, and allocate the budget effectively for poverty alleviation programs. This study's results also prove a strong relationship between economic growth, the Human Development Index government spending, and the poverty rate in Maluku Province. The results of this study can be a basis for the government and other stakeholders to formulate more effective policies to reduce poverty in Maluku.

CONCLUSION

1. Economic growth positively and significantly affected poverty in Maluku Province from 2013 to 2023, where the study results show that the considerable value of 0.018 is smaller than the substantial level of 0.05. The economic growth regression coefficient has a positive value of 0.056, which means that if economic growth increases by 1 percent, poverty will also increase by 0.056 percent. Suboptimal development policies, such as the concentration of development in certain areas, also contribute to the inequality of income distribution. High-income inequality still causes poverty in Maluku to be relatively high. Income inequality can hinder inclusive economic growth.
2. The Human Development Index had a positive and significant effect on poverty in Maluku Province in 2013-2023, with the study results showing a substantial value of 0.018, which was smaller than the sig value of 0.05. For the regression coefficient value, the human development index has a positive value of 0.207, meaning that if the value increases by 1 percent, poverty will increase by 0.207 percent. Thus, the analysis results show that if HDI increases, the poverty rate tends to decrease due to a better quality of life, including health, education, and higher living standards.
3. Government spending had a negative and significant effect on poverty in Maluku Province from 2013 to 2023, which is indicated by a significance value of 0.000, which is smaller than the significance level of 0.05. The study results show that the regression coefficient value for government spending has a negative value of -4.05000000, meaning that if government spending increases by 1 percent, poverty will decrease by 4.05000000 percent. The increase in government spending may not be accompanied by increased efficiency in its use. If most of the budget is wasted or not on target, the impact on poverty reduction will be minimal. External factors such as commodity price fluctuations, natural disasters, or central government policies can also affect poverty levels and modulate the impact of increased local government spending.
4. Economic growth, human development index, and government spending significantly affect Maluku province's poverty. The higher the economic growth, the more jobs can be created, increasing people's income and decreasing poverty levels. A high HDI results in a better quality of life for the community, including access to education, health, and a decent standard of living. For this reason, the government budget allocation is likely appropriate, especially for poverty alleviation programs that can directly impact reducing the number of poor people.

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