

The Influence of Per Capita Income, Human Development Index, and Unemployment Rate on Poverty Levels in North Sumatra

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Abstract

North Sumatra, a province abundant in economic potential and natural resources, still grapples with severe poverty. This phenomenon of poverty is not influenced by a single factor but by a multitude of interrelated economic variables. In this study, data collection is carried out secondarily, using up-to-date data from the Central Bureau of Statistics. The research method employed is descriptive quantitative. From the analysis, it is evident that the R Square value stands at 0.991. This indicates that the variables of Income per Capita (X1), Human Development Index (X2), and Unemployment Rate (X3) collectively influence the Poverty Level (Y) by 99.1%. The decision-making process can be informed by the time span of the data or the specific areas from which the data is derived. Despite North Sumatra's rich resources, poverty remains a significant issue, underlining the complexity and interplay of various economic factors. The high R Square value suggests a strong correlation between income, human development, and employment levels in determining poverty. This comprehensive understanding emphasizes the necessity for targeted policies that address these interlinked factors to effectively combat poverty in the region. By analyzing secondary data from credible sources, the study highlights the importance of a multifaceted approach in addressing poverty. The insights derived from the data can guide policymakers in formulating strategies that not only boost economic growth but also ensure equitable development, thereby reducing poverty levels. The findings underscore the critical need for continuous monitoring and analysis of these economic variables to foster sustainable development in North Sumatra.

1. Introduction

Poverty is a problem for individuals in society who find it difficult to fulfill daily living needs due to low wages that are not in line with the cost of living and increasing population density, which in particular affects competitiveness in various demand sectors, especially in the employment sector, which as a result further increases the high unemployment rate (Sari, 2021).

According to the Central Statistics Agency, poverty refers to the inability to meet basic standards, including food and non-food needs. Poverty is a problem in all countries, especially in developing countries and eradicating poverty is the ultimate goal of a country. Poverty is an unresolved problem in Indonesia, especially in North Sumatra. There are several factors that influence the poverty level, such as population size, unemployment rate, minimum wage, government spending, and the share of the industrial sector in GDP.

Poverty is a problem that has existed since before the Reformation until now. Therefore, increasing poverty in Indonesia is the most important and dominant problem facing current government policy. In all government efforts to overcome poverty, the relevance of poverty is always considered the main issue because maximum prosperity has not been achieved (Desmawan et al., 2021).

The World Bank sets poverty standards based on per capita income, that is, a person whose per capita income is less than one third of the national average per capita income. The consumption-based poverty line consists of two components. This means: 1) Expenditures necessary to ensure minimum nutritional standards and other basic needs. 2) Widely varied needs that reflect the costs of participating in everyday life.

North Sumatra, a province rich in economic potential and natural resources, still faces severe poverty problems. The phenomenon of poverty is not only influenced

by one factor, but many other interrelated economic variables. In the discussion of this article, per capita income, the Human Development Index (HDI) and the unemployment rate play an important role in shaping and influencing the poverty level analyzed in the North Sumatra region.

Table 1. Poverty Level of North Sumatra Province (2016-2020)

Year	Percentage of Poor Population in North Sumatra (%)
2016	9.69
2017	8.96
2018	8.84
2019	8.39
2020	8.73

Source: Central Statistics Agency, data processed (2016-2020)

Per capita income is an important indicator in measuring the welfare of society in a particular country or region. Low levels of income are a direct cause of poverty and can limit people's access to basic needs such as education, health and housing. Therefore, it is important to understand the distribution of per capita income in North Sumatra Province for analysis to identify communities that are vulnerable to poverty.

Table 2. GRDP per Capita Based on Current Prices for North Sumatra Province (2016-2020)

Year	GRDP per Capita of North Sumatra (Rp)
2016	44,557,762.32
2017	48,003,601.89
2018	51,427,494.00
2019	54,620,404.00
2020	54,979,044.00

Source: Central Statistics Agency, data processed (2016-2020)

The Human Development Index is also an important measure for measuring people's quality of life in certain circumstances. HDI

components such as education, health and income provide a more comprehensive picture of regional development. Active community participation in human development can stimulate inclusive economic growth and reduce inequality, thereby reducing existing poverty.

Table 3. Human Development Index for North Sumatra Province (2016-2020)

Year	North Sumatra HDI (%)
2016	70.00
2017	70.57
2018	71.18
2019	71.74
2020	71.77

Source: Central Statistics Agency, data processed (2016-2020)

On the other hand, the unemployment rate is also a factor that greatly influences the poverty level in North Sumatra. Unemployment is not only detrimental from an economic perspective, but also has broad social impacts. The link between unemployment and poverty shows the need for policies that not only encourage economic growth but also create decent jobs for the community.

Table 4. Unemployment Rate of North Sumatra Province (2016-2020)

Year	North Sumatra Unemployment Rate (%)
2016	5.84
2017	5.60
2018	5.56
2019	5.41
2020	6.91

Source: Central Statistics Agency, data processed (2016-2020)

Poverty is an important economic indicator because it provides an overview of the economic situation. A high poverty rate indicates that the economy is not yet fully developed. Given the diverse impacts of poverty, government and other stakeholder

intervention is needed to take steps to reduce poverty and improve community welfare.

In the discussion of this article, the influence of per capita income, community development index (HDI), and unemployment rate on the dynamics of the economic variables studied will be discussed in more detail. Therefore, research on these variables is expected to be able to develop or evaluate effective strategies to overcome poverty and encourage sustainable growth in the region.

2. Literature Review

2.1 Income per capita

According to Hanum (2019), per capita income is the result of dividing the total income of an area by its population in the same year. Ideally, this figure should come from dividing total regional income by population. However, often this data is not available, so an alternative approach is used by dividing the total Gross Regional Domestic Product (GRDP) based on market prices by population. Per capita income figures can be expressed either in current prices or constant prices, depending on the needs of the analysis carried out.

In measuring per capita income, focusing on total regional income and population provides a more accurate picture of the distribution of wealth in a region. Although there are challenges in obtaining precise data, the replacement method using GRDP based on market prices can provide a fairly close picture. In this context, the use of current or constant prices becomes an important consideration, depending on whether the analysis wishes to reflect actual revenue values or ignore price fluctuations.

Apart from that, a good understanding of per capita income can also provide in-depth insight into the level of economic progress of a region. Stable or rising per capita income can reflect continued economic growth, while falling per capita income can signal economic problems or inequality that need to be addressed. Therefore, regular monitoring of per capita income is important for policy

planning and efforts to develop a more inclusive and sustainable economy.

2.2 Human Development Index

According to UNDP in Dewi (2014), one sign of the realization of development that can encourage economic growth is human development. The United Nations Development Program (UNDP) introduced the Human Development Index (HDI) as a metric to measure the quality of human capital. HDI offers measurements that cover three main dimensions of human development, namely health which is measured through life expectancy, education which is measured through adult literacy levels and average duration of schooling, and purchasing power which is measured through a decent standard of living using parity. purchasing power.

According to Asmita, Fitrawaty, and Dede Ruslan (2017), the Human Development Index is a comparative measure of life expectancy, literacy, education and living standards for all countries in the world. HDI is used to classify countries into developed or developing countries. According to the new growth theory, there is a re-emphasis on the importance of government participation or role in encouraging development, especially in developing human resources and increasing productivity and human development.

In addition, the Human Development Index (HDI) also reflects international efforts to identify and overcome inequalities that exist in society. The use of health, education and purchasing power dimensions in HDI provides a holistic picture of the human condition in a country. Thus, human development is not only related to economic aspects, but also includes deep social aspects. HDI is an important instrument in designing development policies that focus on increasing welfare and equality, in line with efforts to achieve sustainable development goals. Therefore, attention to improving the quality of human capital through various health, education and economic

empowerment programs is crucial in achieving sustainable development.

2.3 Unemployment

Unemployment is caused by an imbalance that occurs in the labor market. The labor market has two important elements, namely the labor demand and supply curves. The labor demand curve reflects the number of jobs needed or employed by firms, with a negative slope at a given wage level. On the other hand, the labor supply curve reflects the amount of labor that households are willing to offer, with a positive slope towards the wage level (Mahroji, 2019).

According to Sukirno in Suaidah (2013), unemployment refers to someone who has been included in the workforce, is actively looking for work at a certain wage level, but is unable to get a job according to his wishes. Unemployment is often caused by economic and structural factors that can create a gap between the skills possessed by job seekers and the needs of the labor market. Apart from that, changes in certain economic sectors or technological developments can also affect the unemployment rate. Although individuals experiencing unemployment are actively looking for work, the process sometimes takes quite a long time before they can find suitable work. Therefore, policies that support skills training, economic restructuring, and creating jobs can be key in overcoming the problem of unemployment and improving a country's economic prosperity.

According to Kristina et al. (2021), unemployment is a situation where someone who is in the workforce wants to get a job but is not yet able to. Unemployment will most likely occur because existing jobs are not able to accommodate all the existing workforce. Unemployment is caused by labor market imbalances. This shows that the number of workers offered exceeds the number of workers needed.

According to Syahril (2014: 80), unemployment is an economic disease and has

a significant impact on the level of economic growth. Unemployment causes people to lose income and fall into poverty. In general, the government is trying to combat unemployment in order to expand job opportunities in both the public and private sectors.

2.4 Poverty

Poverty is a serious challenge in many countries around the world, especially in developing countries. According to Hardinandar (2019), poverty is a condition where a person is unable to fulfill basic needs such as food, clothing, medicine and shelter. This shows that the inability to meet essential needs is the main indicator of poverty.

Furthermore, Oktaviana et al. (2021) stated that poverty is not only a social problem, but also reflects the economic conditions of a region. Poverty can be considered a relevant measure for assessing the success of government development in a region. Therefore, addressing poverty is an important aspect in efforts to improve community welfare and achieve sustainable development.

3. Research Methods

Data collection was carried out secondary in this research, where the data came from the updated Central Statistics Agency. The method used in this research is descriptive quantitative. Quantitative research is research that uses a certain population or sample from the research conducted. Data collection involves the use of research tools and quantitative or statistical data analysis aimed at testing predetermined hypotheses. Quantitative research produces more measurable information. This is because there is data that can be used as a basis for producing more measurable information.

Quantitative research does not question the relationship between researchers and research subjects because research results depend more on the instruments used and measurable variables used, rather than the intimacy and emotional involvement between

researchers and the subjects studied (Firman, 2018). The descriptive method or descriptive approach is a method used to describe or analyze research results. According to Jayusman (2020), descriptive research is carried out by looking for information related to existing symptoms, clearly explaining the goals to be achieved, planning how to approach it, and collecting various kinds of data as material for making reports.

In analyzing this research, analytical techniques using multiple linear regression models and classical assumption tests were used. Multiple linear regression is a statistical method used to form a model that explains the relationship between a dependent variable (response or Y) and one or more independent variables (independent or predictor or X). If there is only one independent variable, it is referred to as simple linear regression. On the other hand, if there are several independent variables, the method is known as multiple linear regression.

According to Aziz (2018) The aim of multiple linear regression analysis is to estimate how changes in the dependent

variable can be explained by changes in several independent variables. The multiple regression equation, provides a mathematical framework to describe this relationship. According to Ghozali (2018), multiple linear regression is a model that includes several independent variables. Analysis is carried out to understand the direction and extent of the influence of the independent variable on the dependent variable. In other words, multiple linear regression helps in understanding the relative contribution of each independent variable to the variation in the dependent variable.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Information :

Y = Poverty Level

α = Constant

β = Variable regression coefficient independent

X_1 = Per capita income

X_2 = Human development index

X_3 = Unemployment Rate

4. Results and Discussion

4.1 Research Result

a. T Test (Partial)

Table 5. T Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-580,540	251,821		-2,305	,261
	X1	-1.752E-6	,000	-16,279	-2,514	,241
	X2	9,512	4,036	15,201	2,357	,255
	X3	,429	,101	,541	4,252	,147
a. Dependent Variable: Y						

Source: data processed by SPSS 27

The basis for making partial t test decisions (multiple linear regression) is based on significance values.

- According to Imam Ghozali (2011) if the sig value. < 0.05 means that the independent variable (X) partially influences the dependent variable (Y).
- Conclusion results of the partial t test:

- Per Capita Income (X1) has no effect on the Poverty Level (Y).
- The Human Development Index (X2) has no effect on the Poverty Level (Y).
- The unemployment rate (X3) has no effect on the poverty rate (Y).

b. F Test (Simultaneous)**Table 6.** F Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,910	3	,303	38,455	.118 ^b
	Residual	,008	1	,008		
	Total	,918	4			
a. Dependent Variable: Y						
b. Predictors: (Constant), X3, X2, X1						

Source: data processed by SPSS 27

The first basis for making decisions on the f-simultaneous test is according to Imam Ghozali (2011), namely if the sig. < 0.05 means that the independent variable (X) simultaneously influences the dependent variable (Y). The conclusion based on Imam Ghozali's decision is the sig value. (X1), (X2), and (X3) are 0.118, which is greater than the

sig value. which means that the basis of the decision according to Imam Ghozali is 0.05, which means that the variables (X1), (X2), and (X3) simultaneously have no effect on the variable (Y).

c. Coefficient of Determination Test**Table 6.** Coefficient of Determination Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,996 ^a	,991	,966	.08881
a. Predictors: (Constant), X3, X2, X1				

Source: data processed by SPSS 27

Based on the output results above, it can be seen that the R Square value is 0.991. So this shows that Income per Capita (X1), Human Development Index (X2), and Unemployment Rate (X3) have an influence on the Poverty Rate (Y) of 99.1%.

4.2 Discussion

Firstly, the analysis indicates that Per Capita Income, Human Development Index, and Unemployment Rate individually do not have a significant impact on the Poverty Level in North Sumatra. This suggests that other factors may play a more critical role in influencing poverty in the region. Despite the high R Square value indicating that the independent variables collectively explain 99.1% of the variation in poverty levels, the F test shows that this combined influence is not statistically significant. This may imply multicollinearity

among the independent variables or other underlying factors that were not captured in this study.

These findings have significant implications for policy-making. They suggest that policymakers need to consider a broader range of factors when addressing poverty in North Sumatra. While improving income levels, human development, and employment are crucial, other elements such as infrastructure, education quality, healthcare access, and social safety nets might also be essential. The lack of significant partial effects underscores the complexity of poverty and the necessity for multifaceted and integrated policy approaches. Targeted interventions that address the specific needs and conditions of various communities within North Sumatra are essential for effectively reducing poverty.

Furthermore, the study highlights the need for further research to explore additional variables that may impact poverty levels, such as access to education, healthcare, social services, and the effectiveness of government programs. Longitudinal studies and more comprehensive data could provide deeper insights into the dynamics of poverty in North Sumatra. In conclusion, while Per Capita Income, Human Development Index, and Unemployment Rate are critical factors, their individual and combined influences on poverty in North Sumatra are complex and require further investigation to inform effective policy interventions.

5 Closing

5.1 Conclusion

Based on the results of the analysis carried out in the research above, decisions can be taken which can be used as conclusions from this research as follows:

1. Partially, income per capita in North Sumatra has no effect and is not significant on the poverty level
2. Partially, the Human Development Index in North Sumatra has no effect and is not significant on the poverty level
3. Partially, the poverty level in North Sumatra has no effect and is not significant on the poverty level
4. Simultaneously Income per Capita, Poverty Level and Human Development Index in North Sumatra have no effect and are not significant on the Poverty Level
5. All variables have an influence of 99.1% on their contribution to the dependent variable.
6. The results of decision making can be based on the time span taken on variable data or based on the area taken.

5.2 Suggestion

Even though Income per Capita, Human Development Index, and Poverty Level do not partially influence the Poverty Level in North Sumatra, further research needs to be carried out to understand other factors that might

contribute. And perhaps the limitations of existing data could also be a factor.

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