

Analysis of Factors Affecting Poverty in South Sumatra

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui bagaimana kemiskinan dipengaruhi oleh berbagai faktor seperti tingkat PDRB, IPM, TPT, Laju Pertumbuhan Penduduk dan Tingkat Pendidikan di Provinsi Sumatera Selatan tahun 2005-2023. Penelitian ini menggunakan metode kuantitatif dengan jenis data sekunder yang di dapat dari Badan Pusat Statistiik (BPS). Model analisis yang digunakan dalam penelitian ini adalah dengan Error Correct Model (ECM). Hasil dalam jangka panjang menunjukkan bahwa Variabel PDRB dan IPM berpengaruh negatif dan signifikan terhadap kemiskinan di Sumatera Selatan. Variabel laju pertumbuhan penduduk (LPP) dalam jangka panjang berpengaruh positif dan signifikan terhadap kemiskinan dan variabel tingkat pendidikan memiliki hubungan negative dan signifikan terhadap kemiskinan.

Keywords: Kemiskinan, PDRB, IPM, Pengangguran, Laju Pertumbuhan Penduduk dan Tingkat Pendidikan

ABSTRACT

This research aims to find out how poverty is influenced by various factors such as the level of GRDP, HDI, TPT, Population Growth Rate and Education Level in South Sumatra Province in 2005-2023. This research uses quantitative methods with secondary data obtained from the Badan Pusat Statistik (BPS). The analysis model used in this research is the Error Correct Model (ECM). The results in the long term show that The GRDP and HDI variables have a negative and significant effect on poverty in South Sumatra. The variable population growth rate (LPP) in the long term has a positive and significant effect on poverty and the education level variable has a correlation negative and significant to poverty.

Keywords: Poverty, GRDP, HDI, TPT (Unemployment), Population Growth, Education Level

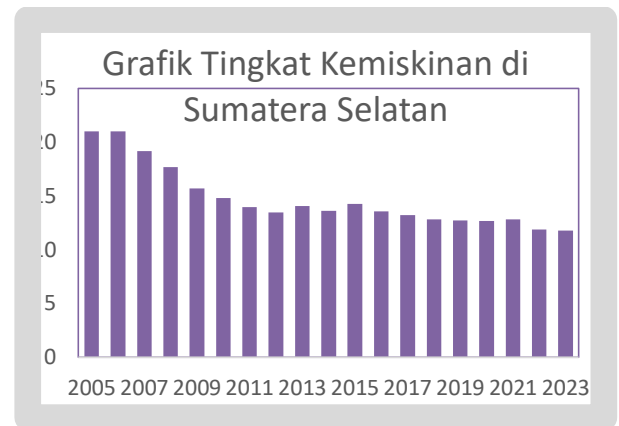
Introduction

Every level of society has the right to a safe and dignified life. The state has confirmed its commitment to achieving this goal by alleviating all kinds of social and economic problems in society. In the midst of the complexity of global social and economic problems, poverty remains a troubling problem related to living in safety and dignity. Poverty is a condition of a low standard of living which is characterized by material shortages that are below societal norms. Impoverished individuals experience significant impacts on their health, moral well-being, and self-esteem due to their substandard living conditions. According to (Haughton, 2012), poverty is associated with access capabilities in society. Poverty stems from lack of income, inadequate access to education, and poor health conditions.

In (Saputra, 2011) citing the World Bank (2004), one of the causes of poverty is a lack of income and assets to meet basic needs such as food, clothing, housing and an acceptable level of health and education. Explained by (Yulianto, 2005) the causes of poverty can occur due to natural conditions, structural conditions and cultural conditions. Natural poverty arises due to limited natural, human and other resources so that production opportunities are relatively small and cannot play a role in development. Structural poverty is caused by uneven development results, institutional arrangements and policies in development. Meanwhile, cultural poverty (culture) is caused by attitudes or living habits that feel adequate, thereby trapping someone in poverty.

There are three indicators to measure poverty in an area, namely by measuring the percentage of individuals/groups below the poverty line (headcount index). The smaller the index number, the lower the poverty rate, or vice versa. Headcount Index is proportional to the amount of poverty. The Poverty Gap Index (Poverty Depth Index) is an average dimension of the difference in expenditure of the poor to the poverty line. If the index value is small, then on average the poor population is close to the poverty line and vice versa. The Poverty Severity Index is to show how the expenditure of the poor is divided. If the index value is high, it means that

the gap in population expenditure is greater. Below is presented data on the percentage of poor people in South Sumatra Province in the form of a bar chart.



Source: <https://sumsel.bps.go.id/indicator/23/604/1/persentase-pembangunan-miskin-menurut-kabupaten-kota.html>

The graph above shows that the percentage of poor people in South Sumatra Province from 2005-2023 continues to fluctuate, tending to decrease. Seen in 2005, it was 21.01%, 7 years later, namely 2006, 2007, 2008, 2009, 2010 and 2011, it continued to experience a significant decline, namely 20.99%, 19.15%, 17.67%, 15.68 %, 14.8% and 13.48% in 2012. In 2013 it increased to 14.06%, followed by the following year it fell again to 13.62%. In 2015 there was an increase of 0.63%, namely 14.25%. The next four years experienced a decline from 13.54% to 12.99%. In 2021, it increased again to 12.84% and in the following two years it decreased again, namely in 2022 it became 12.9% and in 2023 it was 11.78%.

Poverty in South Sumatra continues to fluctuate, tending to decrease, which is a good signal, which means that the economic development process in the region is progressing slowly. In addition to accelerating economic growth, poverty alleviation in development programs must be seen as a multi-faceted process that includes changes in social structures, community attitudes and national institutions (Todaro and Smith 2003). Therefore, to understand the factors that influence poverty, it is necessary to carry out an in-depth analysis of various indicators both socially and economically. Indicators that are often used in analyzing regional

poverty include Gross Regional Domestic Product (GRDP), unemployment rate, HDI, population growth rate and education level.

GRDP according to (Smith, 2003) is the total value of all final output produced by an economy at the regional level (both by regional residents and residents from other regions who live in that area). A strong GDP rate is defined as an increase in economic activity and overall production of goods and services. As a result, more people are able to earn a living wage and poverty rates decrease. This is in line with research by (Leonita & Sari, 2019) using the same variables but different research objects, it was concluded that partially GRDP has a significant influence on poverty. Own research (Susanti, 2016) with the same variables also concluded that GRDP has a significant effect on poverty. Another thing is that research conducted by (Novita & Istiqamah, 2017) with the title "The Influence of GDP, Education and Unemployment on Poverty in Sambas Regency" concluded that GRDP has no effect on poverty.

Apart from GRDP, unemployment is also a factor that contributes to poverty. Unemployment, according to (Sukirno, 1994), occurs when someone is actively looking for work but has not succeeded in doing so. Someone who is not working but is not actively looking for work is not classified as unemployed. The Central Statistics Agency (BPS), includes residents aged 15 years and over who have not worked or are looking for work, as well as those who are starting a new business or have received a job offer but do not yet have a job. The high increase in the workforce but not being matched by an increase in employment growth has caused the problem of unemployment in the area to become serious (Sari, 2021). The seriousness of the unemployment problem will reduce the level of welfare, this significantly increases the possibility of falling into poverty due to lack of income. In line with research conducted by (Patria Nagara, Misharni, 2021) with the title "The Influence of Gross Regional Domestic Product (GDP), Education Level and Unemployment on Poverty Levels in West Sumatra Province" that the unemployment variable has a significant positive effect on poverty. In contrast to research conducted (Prasetya & Sumanto, 2022) with unemployment and labor as dependent variables and poverty as an

independent variable, it concluded that the unemployment variable had a significant negative effect on poverty. This means that every 1% increase in unemployment will reduce the poverty rate.

Then (HDI) is also an important indicator for measuring success in efforts to build the quality of human life. A high quality of life is described by an HDI value that increases over time. HDI is a measuring tool both in terms of its impact on human physical conditions (health and welfare) and non-physical ones (intellectuality). Development that has an impact on the physical condition of society is reflected in life expectancy and purchasing power, while non-physical impacts can be seen from the quality of community education. The higher the HDI in an area can reduce the poverty rate (Miftakhudin, 2020). In accordance with research (Ningrum, 2017), it is explained that HDI has a significant negative effect on poverty. In line with research (Mandey et al., 2023) that HDI has a significant effect on poverty. In contrast to the results of research conducted by (Leonita, 2019) that the HDI variable does not have a significant influence on poverty.

The rate of population growth also influences poverty. Population growth is a process of change in population and its composition which is influenced by three demographic components, namely fertility, mortality and migration (Mulyadi, 2017). This refers to a number that shows the percentage increase in population over a certain period of time (Hambarsari, 2016). Suppressing population increase is very important to improve community welfare. Rapid and uncontrolled population growth can hinder the achievement of economic development goals, ultimately causing a decline in community welfare or poverty. In line with research (Sudiana, 2019) and the population growth variable has a significant positive effect on poverty. Different results of research conducted by (Putra et al., 2021) state that the population growth rate variable has a negative and significant influence on poverty. This means that every 1% increase in the population growth rate will reduce the poverty rate by the coefficient of the population growth rate variable. The results of research by (Hafiz & Kurniadi, 2024) concluded that the population growth rate variable did not have a significant effect on the poverty rate.

According to Ihsan (2011) the level of education is a continuous stage of education, which is determined based on the development of students, the level of complexity of teaching materials and the way teaching materials are presented. School education levels consist of primary education, secondary education and higher education. Own research (Susanto & Pangesti, 2019) states that the level of education has a strong influence on poverty. This is because the level of education is a means of increasing human intelligence and skills, so that they can be more productive in building the nation. Meanwhile, research by (Mandey et al., 2023) explains that the more a person receives higher education, the more likely it is that a person will be trapped in poverty.

There are differences in the results of previous research between one researcher and another, so the author is interested in studying further regarding what factors influence poverty with the Error Correction Model.

Method

The type of research is quantitative research. Quantitative research basically focuses its analysis on numerical or (numerical) data which will later be processed using statistical methods. The data used in this research is secondary data taken from the Central Statistics Agency (BPS) in South Sumatra Province for the period 2005-2023. The independent variables used are GRDP (X1), Unemployment (X2), HDI (X3), Population Growth Rate (X4) and Education Level (X5) as well as the dependent variable Poverty (Y).

This research uses the Error Correction Model as an analysis tool. ECM modeling can test the consistency of empirical models with economic theory and analyze short-term and long-term economic phenomena. In addition, this research relies on time series data which is not always stationary and can give rise to unreliable regression results or erratic regression. The test stages required are stationarity test, cointegration test, short-term and long-term Error Correction Model (ECM) estimation (Widarjono, 2009). Long term ECM equation model:

Poverty = α0 + α1 X1t + α2X2t + α3X3t + α4X4t + α5X5t Ut

Short-term ECM equation model:

ΔYPoverty = β0 + β1ΔX1t + β2Δ X2t + β3ΔX3t + β4ΔX4t + β5ΔX5t ECT-1

Information:

Poverty= Poverty (%)

X1 = GRDP (Billions)

X2 = Open Unemployment Rate (TPT) (%)

X3= HDI (%)

X4= Population growth rate (%)

X5= Education Level (%)

Ut = residual value

ECT= Error Correct Term

Result and Discussion

a. Stationarity Test

Data in the form of a time series is said to be stationary if there is no long-term trend of increasing or decreasing (Makridakis, 1999). The stationarity test is carried out to see whether a variable has a unit root (stationary), this is because stationary data is needed in research so that the data remains valid and avoids spurious regression. In this research, the test used is the unit root test. To find out whether the data is stationary or not is by comparing the ADF value with the critical value of the Mackinnon statistical distribution of 5%. The stationary test can be seen in the table below.

Table 1.1 Data Stationarity Tes

Variable	Levels		1st Difference	
	ADF	MacKinnon 5%	ADF	MacKinnon 5%
Poverty	-2.851195	-3.040391	-3.981883	-3.098896
GRDP	2.892788	-3.040391	-4.919815	-3.098896
HDI	-0.327799	-3.065585	-12.37300	-3.098896
LPP	-3.206595	-3.052196	-	-
Unemploy ment	-1.381115	-3.040391	-4.625215	-3.052169
Level of education	-1.676352	-3.040391	-4.341766	-3.081002

The table above shows that the variables used in the research are not all stationary at level level. This can be seen from the variables poverty, GRDP, HDI, unemployment and education level whose t-ADF value is smaller than the MacKinnon critical value at the 5% significance level.

Therefore, unit root testing needs to be continued at the first difference level. After checking the first difference level, it was found that all the data was stationary at a real level of 5%, meaning that the data used in this research was integrated at the first difference.

Cointegration Test

The next step after ensuring the data is stationary is to carry out a cointegration test. The purpose of this cointegration test is so that all variables are integrated at the same level (Granger, 1987). The cointegration test in this study uses the Engle-Granger (EG) test. This test can be carried out if the data is not stationary at level level.

Table 1.2 Cointegration Test

Based on table 1.2 of the Augmented Dickey-Fuller (ADF) test, it can be seen that the residuals in the long-term equation are stationary so they meet the model criteria, because they are proven to be cointegrated or have a long-term relationship seen from the probability value of $0.0376 < 5\%$.

DISCUSSION

Error Correction Model Test

The Error Correction Model (ECM) approach has the ability to correct biased regression by explaining long-term and short-term parameters comprehensively. In the context of economic data analysis, spurious regression can lead to misleading conclusions because there are false relationships between the variables studied (Insukindro, 1999). In table 1.3, the results of the Error Correction Model test are presented as follows:

**Table 1.3
Short Term ECM Estimation Results**

Variable	Coefficient	t-Statistics	Prob
D(GRDP)	3.27E-06	-0.500410	0.2664
D(HDI)	-3.51E-05	-3,878,096	0.0725
D(LPP)	-0.245650	-0.907316	0.3837
D(UNEMPLOYMENT)	0.712190	2,920,078	0.0092
D(EDUCATION)	-0.543413	-0.120078	0.0811
ECT(-1)	-0.609083	-2,239,276	0.0498
C	0.026483	0.122844	0.9057

R-Square	0.769158
Adjusted R-Square	0.721985
F-Statistics	2,645,408
Prob(F-Statistic)	0.077065

Long Term ECM Estimation Results			
GRDP	-3.197481	3.381278	0.0224
HDI	-0.000141	3.062623	0.0172
LPP	0.415976	-1.258038	0.2305
UNEMPLOYMENT	1.086016	6.125012	0.0000
EDUCATION	-0.862160	-2.562439	0.0236
C	1.294975	5.519853	0.0001
R-Square	0.956028		
Adjusted R-Square	0.939115		

		t-Statistics	Prob*
Augmented Dickey-Fuller Test Statistics		-3.190038	0.0376
Test critical values:	1%	-3.857386	
	5%	-3.040391	
	10%	-2.660551	
F-Statistics	5,652,798		
Prob(F-Statistic)	0.000000		

Based on the test results table above, it can be seen as follows:

First, the short-term GRDP variable has a positive and insignificant influence on poverty in South Sumatra. This can be seen from the probability value of the GRDP variable of $0.2664 > 0.05$ with a coefficient of $3.27E-06$. Meanwhile, in the long term, where is the probability of the GRDP variable $0.0224 < 0.05$ with a coefficient of -3.197481 . This means that the GRDP variable has a negative and significant effect on poverty in the long term. This means that every time there is an increase in GRDP, the poverty level will decrease. In line with research (Wanda, 2023) that the GRDP variable has an influence negative significant impact on poverty in the long term because the continuous increase in Gross Regional Domestic Product (GRDP) shows a stable and long-lasting economic expansion, accompanied by an increase in per capita income. Strong economic expansion usually occurs alongside increased capital investment, job creation, and increased

individual income. This allows individuals, especially those living below the poverty line, to increase their accessibility to a variety of resources, including education, health services, and infrastructure. Therefore, a sustainable increase in GRDP has the potential to reduce poverty levels in the long term by improving the welfare and living standards of the entire community.

Second, seen from the short term, the HDI variable has an insignificant negative relationship with poverty. This matter showed by the HDI coefficient value $-3.51\text{E-}05$ with a probability of 0.0725 greater than the 5% significance level. Another case in long-term studies, the HDI variable has a relationship negative and significant to poverty. This can be seen from the HDI coefficient value of -0.000141 with a significance level of less than 5% or $0.0172 < 0.05$. In this case, it means that every 1% increase in HDI will reduce the poverty level. Supported by proprietary research (Nugroho, 2016) which explains that HDI has an influence negative significant impact on poverty. Over a long period of time, the Human Development Index (HDI) functions as an indicator of the welfare and standard of living of a population as a whole. The Human Development Index (HDI) consists of three main dimensions: health, which refers to the length and quality of life; education, which includes knowledge and skills; and a reasonable standard of living, as measured by income level. An increase in the Human Development Index (HDI) indicates improvements in the provision of health services, educational opportunities, and individual income levels. Thus, the HDI component that continues to increase will improve the economic cycle in South Sumatra.

Third, the variable population growth rate (LPP) in the short term has a negative and insignificant effect on poverty. With a coefficient value of -0.245650 and a probability of $0.3837 < 0.05$. The long-term results state another thing, namely that the population growth rate (LPP) variable has a coefficient number of 0.415976 with a probability of $0.2305 > 0.05$. This explains that there is a positive and non significant correlations between the LPP variable and poverty in the long term. This matter supported by proprietary research (Malla, 2022) says that the rate variable growth Population does not have a

significant influence on poverty levels. Although there is a positive relationship between population growth rate and poverty, the relationship is very weak.

Fourth, the coefficient value of the unemployment variable in the short term is 0.712190 with a probability of $0.0092 > 0.05$. This means that the unemployment variable has a significant positive effect on poverty in the short term. Likewise, in long-term studies, the unemployment variable has a positive and significant relationship to poverty. This matter showed The coefficient value is 1.086016 and the probability is $0.000 < 0.05$. This is in line with research by (Wanda, 2023) which uses ECM as an analysis method which states that unemployment has a significant positive influence on poverty in the long term. This is because prolonged unemployment creates unstable economic conditions for individuals and households, which often results in the inability to meet basic needs such as food, clothing and shelter. Long-term unemployment also harms mental and physical health, reducing a person's productivity and capacity to find work in the future. Additionally, excessive unemployment can reduce aggregate demand in the economy, slowing economic growth and resulting in fewer job prospects. Additionally, prolonged unemployment can have a negative impact on a person's employability, making it more difficult for them to find quality work in the future.

Fifth, the education level variable in the short term illustrates the correlation negative and not significant. Judging from the coefficient value -0.543413 and probability $0.0811 > 0.05$. while in Long term testing, the education level variable has a relationship negative and significant to poverty. This is characterized by a coefficient value of -0.862160 and a probability of $0.0236 < 0.05$. Negative relationships explain that each exists increase level of education, it will reduce the level of poverty. The results of this research are in line with research by (Kamaruddin et al., 2020) which explains that education not only provides the knowledge and skills needed to enter the job market, but also opens the door to access to better economic opportunities. Individuals with higher education tend to have more opportunities to obtain stable, high-income employment, while those with lower levels of education tend to be

limited in employment. Additionally, education plays an important role in increasing financial independence, enabling individuals to better manage their finances and avoid the trap of long-term poverty.

Conclusion

The GDP variable in the short term has a positive and insignificant influence on poverty, however in the long term, GRDP has a negative and significant effect on poverty in Sumatra South. The HDI variable has a negative but not significant relationship with poverty, but in the long term the HDI variable has a negative correlation and significant to poverty. The population growth rate (LPP) variable in the short term has a negative and insignificant influence on poverty, whereas in the long term there is a positive and significant relationship between the LPP variable and poverty. The unemployment variable has a significant positive effect on poverty in the short term. Likewise, in long-term studies, the unemployment variable has a positive and significant relationship to poverty. The education level variable in the short term describes the relationship negative and not significant while in the long term, the variable level of education has a relationship negative and significant to poverty.

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