

Analysis of the Effect of Economic Growth, Provincial Minimum Wages and Health Levels on Poverty in West Sumatra for the 2000-2022 Period

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Abstract

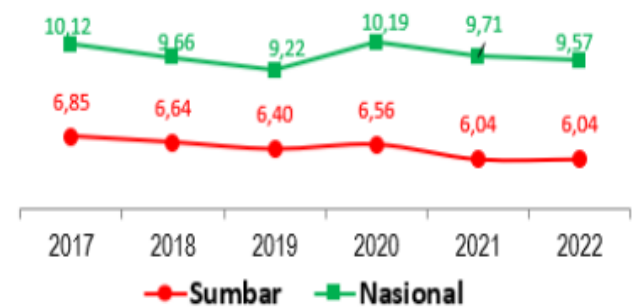
Poverty is a complex problem and has a multidimensional nature. As a result, poverty alleviation efforts cover and integrate various aspects of people's lives and must be carried out in an integrated manner. This study aims to determine what factors influence poverty in West Sumatra Province in the 2000-2022 period. The type of data used in this research is secondary time series data of 23 years from the period 2000-2022. Poverty is the dependent variable and Economic Growth, Provincial Minimum Wage, and Health are Independent Variables. The method used in this study is the multiple linear regression analysis model or the ordinary least squares (OLS) method. Data sources were obtained from BPS Indonesia and the World Bank. The results show that for the variable economic growth has a negative and insignificant effect on poverty in West Sumatra Province, but for the Provincial Minimum Wage variable it has a negative and significant effect on poverty in West Sumatra Province and the life expectancy variable has a positive and insignificant effect on poverty in the Province West Sumatra.

1. Introduction

Poverty is a complex and pervasive problem that extends across various dimensions. Scholars such as Nasir et al. (2008) emphasize the need for poverty alleviation efforts to adopt an integrated approach that considers the multifaceted nature of the issue and addresses various aspects of societal life. This complexity is especially pronounced in many developing countries, Indonesia included. Effectively addressing poverty is not only important but also imperative, necessitating comprehensive solutions at both the national and regional levels.

The chart below provides a visual representation comparing poverty levels in West Sumatra Province to the national poverty level. Notably, in 2020, there was a significant increase in poverty rates, largely attributed to the direct impact of the COVID-19 pandemic. The national poverty rate surged to 10.19%, while West Sumatra experienced a slightly lower rate at 6.04%. This comparison underscores the severity of the challenges posed by the pandemic, revealing its substantial impact on poverty levels both nationally and regionally..

Figure 1. Comparison development level poverty in West Sumatra with National



Source : Bappeda Source

The graph above illustrates the poverty trends in West Sumatra Province. Examining the graph reveals that the poverty rate in West Sumatra was 6.85% in 2017, experienced a decline to 6.56% in 2019, saw an increase to 6.56% in 2020, and subsequently decreased in the following years, reaching 6.04% by 2022. In comparison to the national poverty rate, West Sumatra Province consistently remains below the national average each year, indicating a superior performance in poverty reduction.

The Central Statistics Agency (BPS) employs a needs-based approach to measure poverty, focusing on individuals' inability to

meet basic needs such as food, irrespective of expenditure facets. Those considered poor are individuals with an average monthly expenditure below the poverty line set by BPS, amounting to IDR 654,194 per capita per month in West Sumatra Province for the year 2022. The World Bank also utilizes a poverty size based on daily income, categorizing individuals earning less than \$1.90 per day as living in extreme poverty.

Several theories address the level of poverty in West Sumatra Province, including economic growth, provincial minimum wages, and health levels. Economic development theory posits that economic growth is a variable that can reduce the incidence of poverty. This connection is explained through the trickle-down effect, indicating that the benefits of economic growth can reach the poor through wealthier segments of society. However, a contrasting theory, the population cycle theory, suggests that high population growth contributes to poverty. Recent studies have provided mixed findings, with some indicating a lack of consistency between economic growth and poverty reduction, while others show a positive but not significant influence of economic growth on poverty. Further research is needed to comprehensively understand the dynamics between economic growth and poverty in West Sumatra Province.

The wage level serves as a crucial determinant of societal prosperity, and the minimum wage significantly impacts the poverty level in West Sumatra Province by contributing to an increase in average wages. As per the research conducted by Laga and Priseptian (2022), the provincial minimum wage exhibits a negative and significant influence on poverty, indicating that higher minimum wage amounts in a province lead to a decrease in poverty. Boediono (2014) supports this perspective, considering the minimum wage as a mechanism to enhance the income of residents and improve the well-being of workers, ultimately contributing to poverty reduction. However, Khairil Ihsan and Ikhsan (2018) have a contrasting view, stating that the

provincial minimum wage has a positive but not significant impact on poverty.

Additionally, health plays a crucial role in influencing the poverty level in West Sumatra Province. According to Todaro, health and education are essential components in growth and development, providing quality inputs and enhancing productivity in the production function. Education and health are considered individual investments in economic growth. Healthy individuals can use education productively, directly impacting poverty levels and income. Health-related issues pose a significant challenge for the poor, as financial limitations hinder their ability to access healthcare and fulfill personal needs. An individual's health significantly influences community well-being and has a close connection with poverty.

Healthy individuals tend to exhibit higher levels of productivity, income, education, and various advantages, making health a crucial factor in poverty reduction efforts. Life Expectancy Rate serves as an indicator of health, and research by Naylal and Fihri, David Kuluge, and M. Wawan Gunawan indicates that health has a positive but not always significant influence on poverty. Amelia Sestu Rahajeng's research also supports the notion that health has a positive and significant impact on poverty. However, it is important to note that life expectancy alone cannot guarantee effective work and high productivity, especially if individuals have a history of diseases or health problems that hinder their ability to work effectively, posing a challenge in attaining sufficient income to meet life's needs.

The study was conducted to analyze various aspects related to poverty in West Sumatra Province. This information is crucial for identifying the main issues that contribute to poverty in the region. The results of this research can serve as valuable insights for policymakers in the region, enabling them to direct response programs that are more focused and effective in addressing poverty in West Sumatra.

2. Literature Review

2.1 Poverty

Poverty is generally defined as the inability to generate income sufficient to meet basic needs and ensure the continuity of life (Surawati, 2004). The ability to generate income for meeting basic needs is often measured against a certain low standard, and, as a result, it does not necessarily ensure the fulfillment of a standard quality of life. Therefore, poverty is generally characterized as a condition where basic needs and other essential requirements for maintaining a standard quality of life cannot be adequately met.

2.2 Economic Growth

Economic growth is the development of an economy over a certain period, which can be measured by a country's ability to produce goods and services from one period to another. This ability to produce is influenced by factors of production that consistently increase in quantity and quality (Sukirno, 2008).

According to Arsyad (2010), economic growth is the increase in a society's output of goods and services. It involves the utilization of more factors of production in the production process, without necessarily changing the technology employed in production. Additionally, economic growth can be understood as an increase in the Gross Regional Domestic Product (GRDP) without solely focusing on whether the growth is driven by changes in the population or alterations in the structure of the economy.

2.3 Provincial Minimum Wage

In Law No. 13 of 2003, Chapter 1 Employment, Paragraph 1, and Paragraph 30, wages are defined as the rights of workers or accepted workers, which are expressed in the form of money provided by employers as compensation to workers/laborers according to the employment contract, agreement, or conditions, including allowances for workers and their families for work and services that have been or will be done. On the other hand, Regulation of the Minister of Immigration and

Human Resources Number 7 of 2013 specifies that the minimum wage is the monthly minimum wage established by the governor as a net safety net. This minimum wage is determined based on the decent cost of living (KHL) to ensure the well-being of workers and considers productivity and economic growth. The minimum wage represents the lowest price that can be paid to a worker.

2.4 Health

According to Todaro, health and education are important components in the growth and development of a society, creating quality inputs and enhancing productivity to accelerate the production function. Education and health are considered investments made by individuals in the growth of the economy. Individuals who are healthier are better able to use education productively in various aspects of life, leading to a direct impact on poverty levels and income.

Health-related issues are particularly challenging for the poor due to financial limitations, hindering their ability to access healthcare and meet their personal needs. An individual's health status significantly influences the well-being of society and is closely related to the issue of poverty. The signaling theory suggests that information disclosure can serve as a signal for investors and other potential stakeholders, influencing economic decision-making (Suniari & Suaryana, 2017).

3. Research Methods

The study adopts a quantitative approach, aligning with the positivism philosophy, to analyze numerical data. This method is suitable for researching a specific population or sample using instruments for data collection and quantitative data analysis. The data type employed is quantitative, involving numerical values that can be calculated. The study focuses on data related to Economic Growth, Provincial Minimum Wage, and Health in West Sumatra Province from 2000 to 2022.

Data sources include information on Poverty, Economic Growth, Provincial Minimum Wage, and Health, obtained from the West Sumatra Central Statistics Agency (BPS), literature, relevant agencies, and sources related to the study's topic. The study encompasses dependent variables (Poverty) and independent variables (Economic Growth, Provincial Minimum Wage, and Health). Poverty is measured as a percentage reflecting the level of poverty in West Sumatra Province. Independent variables, including Economic Growth, Provincial Minimum Wage, and Health, are measured in percentages, Rupiah units, and life expectancy numbers.

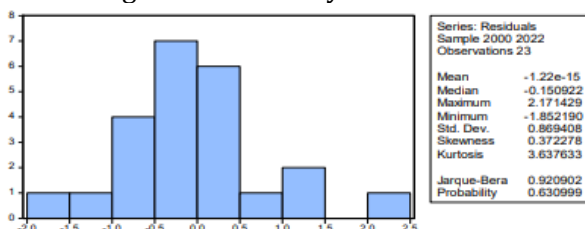
The data analysis method employed is multiple regression with the aim of understanding the relationships between Poverty (dependent variable) and Economic Growth, Provincial Minimum Wage, and Health (independent variables). Classic assumption tests are conducted, covering normality, multicollinearity, heteroscedasticity, and linearity tests. The F-test is employed to determine whether independent variables collectively have a simultaneous influence on the dependent variable. The t-test assesses the partial influence of independent variables on the dependent variable. The results of F and t tests are interpreted based on a significance level of 0.05.

4. Results and Discussion

4.1 Test Assumptions Classic

a. Normality test

Figure 2. Normality Test Results



Source : Processed Data

Normality test in study This using the Jarque-Bera test. In figure 2 it is explained that mark probability equal to $0.6309 > 0.005$ so the data is normally distributed .

b. Autocorrelation Test

Table 1. Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.422984	Prob. F(2,17)	0.6618
Obs*R-squared	1.090289	Prob. Chi-Square(2)	0.5798

Source : Processed Data

Autocorrelation test in research This aim For know is There is happen correlation between member a series of observational data are described according to time (time series) or space (cross section). Based on what results were obtained mark probability chiquare is $0.5798 > 0.05$ then H_0 is accepted which means No happen problems with autocorrelation in study .

c. Multicollinearity Test

Table 2. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	278.3043	7313.601	NA
PE	0.014762	11.21173	1.102374
LN_UMP	0.177444	890.5931	2.521166
KESEHATAN	0.091144	11146.62	2.376981

Source : Processed Data

Table 2 explains where are the results of the pairwise correlation test ? from results estimate seen that No there is problem multicollinearity between variable independent on research This .

d. Heteroscedasticity Test

Table 3. Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	5.750774	Prob. F(3,19)	0.1057
Obs*R-squared	10.94560	Prob. Chi-Square(3)	0.1120
Scaled explained SS	9.850891	Prob. Chi-Square(3)	0.1199

Source : Processed Data

Table 3 can is known that Prob value . Chi-square on Obs * R-Squared is $0.1120 > 0.05$. data or variable free from problem heteroscedasticity .

e. Linearity Test

Table 4. Linearity Test

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.012763	18	0.9900
F-statistic	0.000163	(1, 18)	0.9900
Likelihood ratio	0.000208	1	0.9885

Source : Processed Data

Table 4 can be seen that in the Ramsey Reset Test test it was obtained mark the probability in the F-statistic is $0.9900 > 0.05$, then can be concluded that variable free which is in study. This are GRDP, UMP and Health linear with variable bound in study. This namely the Poverty Level (H_0 is accepted).

4.2 Statistic test

Table 5. Regression Influence Economic Growth, Provincial Minimum Wage, and Health in West Sumatra

Period 2001-2022

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.43782	16.68245	1.105222	0.2829
PE	0.139767	0.121501	1.150336	0.2643
LN_UMP	-3.562902	0.421241	-8.458103	0.0000
KESEHATAN	0.573497	0.301900	1.899627	0.0728
R-squared	0.879739	Mean dependent var		9.101304
Adjusted R-squared	0.860750	S.D. dependent var		2.507038
S.E. of regression	0.935531	Akaike info criterion		2.861366
Sum squared resid	16.62915	Schwarz criterion		3.058843
Log likelihood	-28.90571	Hannan-Quinn criter.		2.911031
F-statistic	46.32981	Durbin-Watson stat		1.831115
Prob(F-statistic)	0.000000			

Source : Processed Data

regression output results are in table 5 above can be formulated in the equation model regression multiple that is :

$$\text{Poverty} = 18.43782 + 0.139767PE - 3.562929_UMP + 0.57397\text{Health}$$

Constant Value amounting to 18.43782 results. This showing if mark growth economy, provincial minimum wage and health is zero so poverty in West Sumatra will experience enhancement amounting to 18.43782 percent.

a. Coefficient Determination (R²)

Based on results influence variable independent is 0.8797 percent, p. This showing that GRDP, UMP, and Health are capable explain changes that occur at the level poverty in West Sumatra is 87.97 percent, meanwhile the rest amounting to 12.03 percent explained as other

factors do not including in research, so that R Square (R²) with value 87.97 percent can be stated that model valid.

b. Significance Test Simultaneous (F Test)

F test is used For see the influence of each variable independent to in a way simultaneous to dependent. From the results of F count equal to $(46.32) > F$ table (3.13) and value the significance is $0.0000 < 0.05$ means variable independent effect on variables dependent.

f. Significance Test Partial (t Test)

The t test was used For see the influence of each variable independent to in a way simultaneous to dependent. T table in study. This obtained of 2.093, so t test analysis as following :

Variable mark Economic Growth has calculated t value $(1.1503) < t$ table (2.093) with the resulting probability equal to $0.2643 > 0.05$. This matter means the GRDP variable does not influential significant to level poverty in West Sumatra Province. This matter means variable Economic Growth does not influential significant to level poverty in West Sumatra Province, results this is also appropriate with research by Fivien Trick Ningsih, (2020), who found that Economic growth has an effect in a way Positive and not significant to poverty.

UMP variable has calculated t value $(8.458) > t$ table (2.093) with the resulting probability namely $(0.000) < 0.05$, meaning variable Provincial Minimum Wage influential significant to level poverty in West Sumatra Province. means If happen increase Wages so level poverty in West Sumatra Province will decrease and if happen decline amount Minimum Wage then poverty in West Sumatra Province will increase. These results are also in agreement with research by Laga Priseptian, (2022) found that Provincial Minimum Wage influential in a way Negative and significant to poverty. And in line with research conducted by Utami & Masjkuri (2018) on influence of UMP on poverty that produces influence negative and significant.

Health variable has calculated t value $(1.899) < t$ table (2.093) with the resulting

probability namely $(0.0728) > 0.05$, meaning the Health variable does not influential significant to level poverty in West Sumatra Province. Study in line with research conducted by Naylal _ Fithri , David Kaluge (2017) who show Health outcomes matter positive and not significant to poverty , p the government Still not enough effective in effort lower amount population living on the poverty line , p This proven with exists trend enhancement amount poor people from time to time .

5. Closing

5.1 Conclusion

Based on results and discussions that have been carried out explained can concluded that :

1. Growth economy influential positive and not significant to poverty in West Sumatra Province 2000-2022 .
2. Provincial minimum wage influential negative and significant to poverty in West Sumatra Province in 2001-2022.
3. Health matters positive and not significant to poverty in West Sumatra Province in 2001-2022.

5.2 Suggestion

Based on results discussion and conclusions have been made explained , it is recommended that the government Keep going do effort For increase level Provincial Minimum Wage with stable . This matter expected can increase well-being workers and the people of West Sumatra as well prevent poverty . The government also needs it notice enhancement facility health and resources Power power health For give more impact _ significant to society , especially the underprivileged capable , in Sumatra province . For environment academic , results study This expected can add outlook knowledge and study literature related regulations , Economic Growth , Provincial Minimum Wage , Health, and Poverty in West Sumatra Province . This matter can give contribution positive for future research , esp _ for interested researchers _ For deepen issues related poverty in the region .

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