

Model Test of Factors Affecting Poverty in West Nusa Tenggara Province in 2017-2021



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ABSTRACT: The poverty rate in West Nusa Tenggara Province for the 2017-2021 period is still quite high, which is above 10 percent. Thus, an analysis is needed to determine the factors that affect poverty in order to overcome poverty. The purpose of this study was to determine and analyze the effect of education, health, and unemployment partially and simultaneously on poverty in West Nusa Tenggara Province in 2017-2021. This study used quantitative approach and associative method. The data used is secondary data collected using documentation methods. Data analysis was carried out using panel data regression Random Effect Model (REM) approach using Eviews 9 software. The results of this study show that education partially has a negative and insignificant effect on poverty, health has a negative and significant effect on poverty, and unemployment has a positive and insignificant effect on poverty. Simultaneously education, health, and unemployment have a significant effect on poverty. The implication of this study is to produce new findings on the effect of education, health, and unemployment on poverty and as a consideration for the government to carry out policies in an effort to reduce the poverty rate.

KEYWORDS: Poverty, Education, Health, Unemployment, Random Effect Model (REM)

BACKGROUND

Poverty is a problem faced by all countries. Especially for developing countries, one of which is Indonesia. Poverty has been a separate phenomenon throughout Indonesian history. Based on data from the Central Bureau of Statistics, the poverty rate in Indonesia, which was initially high at around 40% in 1976, has managed to decrease to around 11% in 1996. In 1998 the poverty rate was recorded at 24.2% which was mainly due to the skyrocketing commodity prices both food and non-food. In line with the decline in the prices of food and non-food needs, the poverty rate also fell again to around 19% in 2000.

Poverty is indeed a complex issue, because it is not only related to problems of low levels of income and consumption. However, it is also related to the low level of education, health and powerlessness to participate in development as well as various problems related to human development. These dimensions of poverty are manifested in the form of malnutrition, water, healthy housing, poor health care, and low levels of education (Wijayanti & Wahono, 2005).

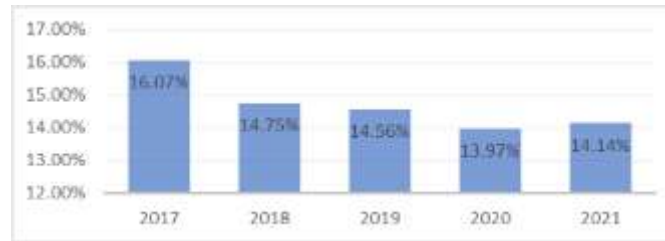
Poverty has made millions of children unable to get a quality education, difficulty paying for health care, lack of savings and no investment, lack of access to public services, lack of employment opportunities, lack of social security and protection for families, strengthening of urbanization flows, and more What's worse, poverty causes millions of people to meet limited food and clothing needs (Sahdan, 2005).

According to the World Bank in Wijayanto, (2010), one of the causes of poverty is due to a lack of income and assets to meet basic needs, such as: food, clothing, housing, acceptable levels of health and education. Poverty can also be related to limited employment opportunities and usually those who are categorized as poor do not have a job, and their level of education and health is generally inadequate. Overcoming the problem of poverty cannot be done separately from the problems of unemployment, education, health and other issues that are explicitly closely related to the problem of poverty.

In Indonesia itself, according to data from the Indonesian Central Bureau of Statistics, the poverty rate in the 2017-2021 period has seen a decline. In 2017 Indonesia's poverty rate reached 10.12 percent. In successive years it continued to decline, namely by 9.66 percent in 2018, then to 9.22 percent in 2019. In 2020 it increased by 10.19 percent, and in 2021 it decreased again by 9.71 percent. During the same period, in West Nusa Tenggara Province the poverty rate also experienced a downward trend. This can be seen from graph 1.1 below:

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**Graph 1.1 Poverty Level in West Nusa Tenggara Province
Year 2017-2021 (Percent)**



Source: BPS, NTB Province in Figures for 2017-2021 (data processed)

Based on graph 1.1, the percentage of poor people from 2017 to 2020 has continued to decline, except for 2021. The sharpest decline occurred in 2018, where the percentage of the population has reached 14.75%. The earthquake disaster in 2018 that hit NTB had an impact on slowing down the decline in the percentage of poverty in 2019 which was only able to reach 14.56% or decreased by 0.19% compared to the previous year. Furthermore, in 2020 the percentage of poor people again decreased to 13.97%, the decrease in the poverty rate in 2020 was due to the earthquake in 2018 and the emergence of the Corona Virus outbreak in 2019, so that in 2020 a lot of assistance was provided by the government as well as the private sector, in the form of assistance in building houses for people affected by the earthquake and assistance in the form of funds and groceries and other assistance that can help meet the needs of the poor.

Furthermore, in 2021 the percentage of poor people actually rose to 14.14%, or an increase of 0.17% points compared to 2020. The outbreak of the Corona Virus (Covid-19) case which has continued since 2019, is one of the causes of the slowdown in the people's economy which leading to an increase in the percentage of poor people.

The percentage of poor people in 2021 which is still lower than the previous five years, namely in 2017, reflects the government's success in achieving one of the Sustainable Development Goals (SDG's) goals. However, with more than 10 percent of the poor population, it is a challenge for the government to continue to optimize various poverty alleviation efforts.

LITERATURE REVIEWS

The previous studies related to this research are as follows:

- 1) Zudiyaty and Kalauge (2017), title Analysis of Factors Influencing Poverty in Indonesia (Case Study at 33 Province). Objective To find out the factors that influence poverty in Indonesia in 2011-2015). The method used is quantitative with regression test. The result is that there is an influence of the human development index on poverty while economic growth and the open unemployment rate have no effect on poverty
- 2) Bintang and Woyanti (2018), title Effect of Gross Regional Domestic Product, Education, Health, and Unemployment on Poverty in Central Java (2011-2015). Objective to determine the factors that influence poverty rates in 35 Regencies/Cities in Central Java Province (2011-2015). The method used Fixed Effect Model (REM). The results of GRDP and unemployment have a positive and significant effect on the level of poverty, the average length of schooling and life expectancy have a negative effect and significantly to the level of poverty
- 3) Giovanni (2018), title Analysis of the Impact of GRDP, Unemployment and Education Against Poverty Levels on the Island Java Year 2009-2016. Purpose Knowing the influence of GRDP, unemployment and education on poverty levels in Java in 2009-2016. The method used is panel data regression. The result Unemployment and education have no effect on poverty in the provinces of West Java, Central Java, East Java and DIY in 2009-2016, while GRDP has an effect against poverty in the province
- 4) Susanto and Pangesti (2019), title The Influence of Education Level on Poverty in DKI Jakarta. Objectives To identify and analyze the effect of education level on poverty in DKI Jakarta. The method used is descriptive quantitative. The result is that education level greatly influences poverty in DKI Jakarta
- 5) Pramuji (2020), title Analysis of the Effects of Population, Unemployment, Education and Health on Poverty in East Java Province in 2011-2018. Objectives Understand the effect of population, unemployment, education, and health on poverty in East Java Province in 2011-2018. The method used is panel data regression with Fixed Effect Model (FEM) analysis. The results Simultaneously the variables of population, unemployment, education, and health have no significant effect on the level of poverty while partially the education variable has a significant and positive effect on poverty, the variables of population, unemployment, and health have no significant effect on poverty
- 6) Hidayatullah (2020), title Analysis of the Influence of the GRDP Growth Rate, Unemployment Rate, Education, and Health Against Poverty Rate in Central Java Province. Purpose To analyze the growth rate of GRDP, unemployment rate, education,

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and health that affect poverty in 35 Regencies/Cities in Central Java Province in 2012-2017. The method used is panel data regression with Fixed Effect Model (FEM) analysis. The result is that the GRDP variable has a negative and insignificant effect on poverty, unemployment has a positive and significant effect on poverty, while the average length of schooling and life expectancy has a negative and significant effect on poverty

- 7) Natari (2020), title The Influence of Education and Health on Poverty in Districts/Cities of West Kalimantan Province. The aim is to analyze and test the effect of education and health on poverty in the Districts/Cities of West Kalimantan Province in 2015-2019. The method used is Panel Data Regression with Random Effect Model (REM) analysis. The result is that partially education has a negative and not significant effect on the level of poverty, health has a negative and significant effect on poverty. Simultaneously education and health have a negative effect and significant to poverty
- 8) Ariasih & Yuliarmi (2021), title Effects of Education Level, Health Level, and Open Unemployment on Poverty in the Province of Bali. Objective To analyze simultaneously and partially the level of education, level of health, and level of unemployment open to poverty level. The method used is quantitative with an associative approach. The result is simultaneously education level, health level, and open unemployment rate influence poverty in Bali, while partially education level and Unemployment rate has a significant effect on poverty and health level has a negative and insignificant effect on poverty in districts/cities of Bali Province
- 9) Martini and Woyanti (2022). title Analysis of Influence of GRDP, HDI, and Unemployment Against Poverty in 35 Regencies/Cities in Central Java Province (2016-2020). The aim is to find out and analyze the effect of GRDP, HDI, and unemployment to poverty in Java Province Middle of 2016-2020. The method used is panel data regression. The result is that the GRDP and HDI variables have a negative and significant effect on poverty, while unemployment has no significant effect on the poverty level
- 10) Isroviyah (2022), title Analysis of the Influence of Education and Health on Poverty in Indonesia in 2016-2020. The aim is to determine the effect of education and health on poverty in Indonesia so that later it can assist the government in making policies to accelerate the decline in numbers poverty. The method used is panel data regression. The result is that education and health have a significant effect on poverty in Indonesia

METHODOLOGY

The type of research used in this study is a type of quantitative research with an associative approach. The data collection method in this study uses the documentation method. The type of data used in this research is secondary data. This secondary data comes from a report from the Central Bureau of Statistics for West Nusa Tenggara Province, especially data for 2017 to 2021. The main data needed is all the variables studied including poverty, education, health, and unemployment. Data analysis in this research is panel data regression which is processed using Eviews-9. The panel data regression equation is as follows:

$$\text{Log } Y_{it} = \alpha + \beta_1 \text{Log}(X1)_{it} + \beta_2 \text{Log}(X2)_{it} + \beta_3 \text{Log}(X3)_{it} + e$$

Log	= Logarithm
Poverty (Y)	= District/City Poverty Level
Education (X1)	= School Enrollment Rate
Health (X2)	= Life Expectancy
Unemployment (X3)	= Open Unemployment Rate
α	= Constant
β_1	= Education regression coefficient
β_2	= Health regression coefficient
β_3	= Unemployment regression coefficient
i	= Object
t	= Time
e	= errors

RESULTS

Based on the research that has been done, the research results are obtained in the form of data on all the variables to be examined, namely the poverty rate as the dependent variable while education, health, and unemployment as the independent variables. The data that has been obtained is then statistically processed using Microsoft Excel software. Furthermore, the data were analyzed using the panel data regression analysis method with Eviews software version 9.

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In testing the regression model using panel data, the first step is to choose the right model. The regression data panel has three models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). To choose the best model to be used, 3 tests were carried out, namely the Chow test, Hausman test, and Lagrange multiplier test. From the results of the model estimation test that has been carried out, it is obtained that the Random Effect model is the best model and meets the classical assumption criteria. Based on the results of panel data regression using the Random Effect Model (REM) approach, the equations obtained are:

$$\text{Log Y}_{it} = 29.4442 - 0.3125 \text{Log}(X1)_{it} - 6.0343 \text{Log}(X2)_{it} + 0.0321 \text{Log}(X3)_{it} + e$$

Then, the classical assumption test, hypothesis test, and analysis of the coefficient of determination were carried out. The results of the classical assumption test include the results of the normality test for normally distributed data, then the results of the multicollinearity test, this research model is free from multicollinearity and the heteroscedasticity and autocorrelation tests are not carried out because the panel data model uses the Random Effect Model (REM) approach which is the General Least Square method. (GLS) which is characterized by heteroscedasticity or autocorrelation) directly into the estimation procedure by transforming the variables. Thus, the REM model is considered to be able to produce a BLUE (Best Linear Unbiased Estimator) estimator and minimize the possibility of violating classical assumptions (Gujarati, 2010). Then the results of the partial test hypothesis test (t test) namely: 1) The prob. value of the educational variable (X1) is 0.1225, where the prob. X1 is greater than 0.05 ($0.1225 > 0.05$) or the value of t count < t table ($-1.574126 < 1.679427$). This means that the education variable (X1) has no significant effect on the poverty variable (Y). So, H1 is rejected. 2) The prob. value of the health variable (X2) is 0.0000, where the prob. X2 is less than 0.05 ($0.0000 < 0.05$) or the value of t count > from t table ($-8.520956 > 1.679427$). This means that the health variable (X2) has a significant effect on the poverty variable (Y). So, H2 is accepted. 3) The prob. value of the unemployment variable (X3) is 0.1466 where the prob. X3 is greater than 0.05 ($0.1466 > 0.05$) or t count < from t table ($1.477140 < 1.679427$). That is, the unemployment variable (X3) has no significant effect on the poverty variable (Y). So, H3 is rejected. Furthermore, the result of the simultaneous test (f test) is the Prob value. (F-Statistic) is less than 0.05 ($0.000000 < 0.05$) or the calculated F value is greater than F table ($32.35347 > 2.811544$). This means that the variables of education (X1), health (X2), and unemployment (X3) have a simultaneous effect on the poverty variable (Y). So, H4 is accepted. Then the value of the coefficient of determination or R² (R-Square) is 0.683233. That is, in the goodness of fit test, the variables of education, health, and unemployment can influence the poverty variable by 0.683233 or 68.32%. Thus, there are 0.316767 or 31.67% of other variables that are not explained in the regression model.

DISCUSSION

The results of this study are in line with research conducted by Giovanni (2018) and Natari (2020) which state that education has no significant effect on poverty. The results of this study are not in line with research conducted by Bintang and Woyanti (2018), Ariasih and Yuliarmi (2021), and Hidayatullah (2019) which state that education has a significant effect on poverty. The results of this study are not in line with the theory put forward by Arsyad (2015) saying that education (both formal and non-formal) can play an important role in reducing poverty in the long term, both indirectly, namely through improving productivity and efficiency in general, as well as indirectly. directly, namely through training the poor with the skills needed to increase their productivity which in turn will be able to increase their income.

The results of this study are in line with research conducted by Hidayatullah (2017), Bintang and Woyanti (2018), Natari (2020), and Isroviyah (2021) which state that life expectancy has a negative and significant effect on poverty. Based on data obtained from the NTB Province BPS concerning Life Expectancy Rates for 2017-2021, several Regencies/Cities have life expectancy values above the average. This means that the quality of public health in districts/cities in the province of NTB is quite good and healthy. Apart from that, data obtained from BPS regarding the percentage of health costs has reached a minimum cost allocation even above 10 percent from 2017-2021, based on Health Law no. 36 of 2006. The results of this study are in line with Arsyad's theory, (2015), explaining that interventions to improve health from the government are also an important policy tool for reducing poverty. The results of this study are not in line with research conducted by Pramuji (2020) and Ariasih and Yuliarmi (2021) which state that health has a negative and insignificant effect on poverty.

The results of the research are in line with research conducted by Zuhdiyaty and Kaloge (2017) which states that the open unemployment rate has no significant effect on poverty. This indicates that not all of the unemployed are poor or those who are unemployed are still being financed by people who have sufficient income. The results of the study show that unemployment does not affect the high level of poverty. This is in line with the results of the National Susenas, where the employment data for the Province of NTB show a fairly good trend, but the poverty rate for the Province of NTB is still high, which is still above 10 percent. This is in line with research conducted by Martini and Woyanti (2022) which states that a reduction in the unemployment rate does not have a significant effect on poverty, due to the fact that the number of poor people in regions is greater than in cities.

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The results of this study are not in line with research conducted by Hidayatullah (2019), Bintang and Woyanti (2018), Ariasih and Yuliarmi (2021) which state that the open unemployment rate has a significant effect on poverty. The results of this study are not in line with Arsyad's theory (2015), explaining that most of those who do not work and do not have full employment, they will continue to be among the poor.

CONCLUSIONS

Education as represented by the School Participation Rate has a negative and insignificant effect on poverty, health as represented by Life Expectancy has a negative and significant effect on poverty, unemployment as represented by the Unemployment Rate has a positive and insignificant effect on poverty. Education, health, and response simultaneously have a significant effect on poverty.

REFERENCES

- 1) Ariasih Ni Luh, & Yuliarmi Ni Nyoman. (2021). The Influence of Education Level, Health Level, and Open Unemployment on Poverty in Bali Province. *CERDIKA Indonesian Scientific Journal*, Vol. 1 No. 7, 807–825.
- 2) Arsyad, L. (2015). *Development Economics (Fifth Edition)*. UPP STIM YKPN.
- 3) Bintang, & Woyanti. (2018). The Influence of GRDP, Education, Health, and Unemployment on Poverty in Central Java in 2011-2015. *Journal of Economics and Management Media*, Vol. 33 No. 1.
- 4) Central Bureau of Statistics. 2017. *West Nusa Tenggara Province in Figures 2017*. Mataram: Central Bureau of Statistics.
----- 2018. *West Nusa Tenggara Province in Figures 2018*. Mataram: Central Bureau of Statistics.
----- 2019. *West Nusa Tenggara Province in Figures 2019*. Mataram: Central Bureau of Statistics.
----- 2020. *West Nusa Tenggara Province in Figures 2020*. Mataram: Central Bureau of Statistics.
----- 2021. *West Nusa Tenggara Province in Figures 2021*. Mataram: Central Bureau of Statistics.
- 5) Giovanni, R. (2018). Analysis of the Influence of GRDP, Unemployment and Education on Poverty Levels in Java Island in 2009-2016. *Economics Development Analysis Journal*.
- 6) Gujarati, D. (2010). *Fundamentals of Econometrics (Fourth Edition)*. Salemba Four.
- 7) Hidayatullah. (2020). Analysis of GRDP Growth Rate, Unemployment Rate, Education, and Health on Poverty in Central Java Province, year. *Journal of Economics and Business*, Vol. 4 No. 1.
- 8) Isroviyah Nila. (2022). Analysis of the Influence of Education and Health on Poverty in Indonesia in 2016-2020. *Journal of Economics and Business*, Vol.2 No. 7.
- 9) Martini Dewi, & Woyanti Nenek. (2022). Analysis of the Influence of GRDP, HDI, and Unemployment on Poverty in 35 Regencies/Cities in Central Java Province in 2016-2020. *BISECER Journal*, Vol. 5 No. 2.
- 10) Natari W.D. (2020). The Influence of Education and Health on Poverty in Districts/Cities of West Kalimantan Province. *Curvanomic Journal*, Vol. 5 No.2.
- 11) Pramuji. (2020). Analysis of the Influence of Total Population, Unemployment, Education, and Health on Poverty Levels in East Java Province in 2011-2018. *Journal of Economic Management Accounting*, Vol. 10 No. 2.
- 12) Sahdan. (2005). *Overcoming Village Poverty*. Article *People's Economy and Poverty*.
- 13) Susanto, R., & Pangesti, I. (2019). The Influence of Education Level on Poverty in DKI Jakarta. *Journal Of Applied Business and Economics*, Vol. 5 No. 4, 340–350.
- 14) Wijayanti, D., & Wahono, H. (2005). Analysis of the Concentration of Poverty in Indonesia in the 1999-2003 Period. *Journal of Development Economics*, Vol.10. No. 3, 215–225.
- 15) Wijayanto, R.D. (2010). Analysis of the Influence of GRDP, Education, and Unemployment on Poverty in Districts/Cities of Central Java in 2005-2008. *Journal of Development Economics*.
- 16) Zudiyaty, & Kaloge. (2017). Analysis of Factors Affecting Poverty in Indonesia (Case Study of 33 Provinces). *JIBEKA Journal*, Vol. 11 No. 2, 27–31.



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