

THE ROLE OF POVERTY IN MEDIATING THE EFFECT OF EDUCATION AND UNEMPLOYMENT ON ECONOMIC GROWTH

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ABSTRACT

The issue of poverty and economic growth is a significant problem many countries face. Many countries, including Indonesia, focus on eliminating poverty and creating good economic growth. This Research aims to test the influence of Education and Unemployment on poverty and its impact on economic growth. 34 provinces in Indonesia, with 9 years of study, resulting in 306 balanced panel data. The data were analyzed using panel data regression and influence—no direct influence on the Sobel Test. Research results show that the level of education is influential to poverty and economic growth, whereas the level of Unemployment is influential to poverty; however, it is not influential to economic growth. Poverty can also lower economic growth. Research also finds that existence influences economic growth without direct poverty. Results study. This implies that the government needs to add expenditure in the sector of Education, like help scholarships, KIP, KJP, or development infrastructure, and assistance such as BLT or social assistance, to get rid of poverty, because the second variable has proven its impact on economic growth in Indonesia.

Keywords: Education, Unemployment, Poverty, GRDP

A. INTRODUCTION

The growth economy becomes one of the most important indicators for evaluating a country and measuring how the state manages its limited resources and Power to fulfill the needs. Based on a report published by the IMF in 2024, Indonesia is included in the 10 countries with the highest GDP, ranking seventh globally, outperforming Brazil, England, and France. This shows that Indonesia has a sufficiently growing economy, although amid global uncertainty, Indonesia has achieved a proud achievement. Based on the Press Release issued by the Ministry of Finance on July 3, 2023, Indonesia in 2019 became an *Upper-Middle Income* Country. However, because of the debilitating COVID-19 pandemic, the global economy, including Indonesia, is experiencing a decline and is expected to return to a *lower-middle-income* country. The government strives to find various ways to handle the pandemic and free Indonesia from the condition. Regarding the programs executed by the government, in 2022, Indonesia returned to the title of *Upper-Middle Income* country. This shows that the government succeeded in recovering from the crisis, and the pressure has negatively impacted COVID-19.

There are Lots of things that can influence the level of economic growth in a country. (Zhu et al., 2022) Disclose that there is a relationship between economic growth, poverty, and sustainable development. Alleviating poverty is the main objective in sustainable development. SDG 1 states "No Poverty," which means no poverty. There is poverty in the world. Poverty in extreme forms must be eliminated, and poverty relative must be lowered to a minimum. (World Bank, 2024) report that in 2024, there will be 8.5 % of the total population in the world living in extreme poverty, meaning 692 million people will have only \$2.15 or around 30 thousand rupiah for their daily needs. Meanwhile, in Indonesia, the poverty level is good in that the number of residents or the percentage experiencing a significant decline in 20 years, except in 2006, 2020, and 2021 (BPS, 2023). In 2006, the level of poverty in Indonesia experienced an improvement, from 15.97% to 17.75 % This was caused by the increase in fuel oil (BBM) prices and the government's failure to stabilize the prices of goods needed most (Tempo, 2006). Furthermore, in 2020 and 2021, the level of poverty also experienced an increase caused by the occurrence of the COVID-19 pandemic.

Many factors drive this improvement in poverty. (Alfiantsyah & Prasetya, 2022) Quality education can influence income inequality and poverty due to low education, which can cause difficulty in getting decent Work. (Cempaka, 2019) Mentioning a low education level makes it difficult for somebody to compete in the world of Work, which will lead to Unemployment, and poor people find it difficult to free themselves and their families from poverty. (Salsabil & Rianti, 2023) It is found that education, as measured by the length of school, has a significant adverse effect on poverty. Individuals who are longer in getting an education have fewer possibilities for a better life above the poverty line (Hofmarcher, 2021). An educated society naturally owns knowledge and skills that can be used to choose work based on what is desired, increasing the income obtained, and ending the cycle of poverty. Thus, education is an investment and an opportunity for a better life in the future, and it supports the development of the economy (Arsani et al., 2020).

(Jibir et al., 2015) Unemployment is a problem in other economies that can cause poor economic conditions for families and encourage them to remain impoverished. High Unemployment, which shows a poor standard of living, is bad and will worsen poverty. Unemployment is finally involved in various social crimes, such as robbery, armed robbery, kidnapping, and drug trafficking, only to look for a living (Gamba et al., 2021). However, Falade & Babatunde (2020) find that Unemployment has no significant impact on poverty. However, Adenike (2021) finds that Unemployment positively influences poverty. Increasingly, high Unemployment causes individuals who lack access to income to fulfill their daily needs to lift themselves out of poverty.

Based on the description above, researchers are interested in studying the influence of education level and Unemployment on poverty and their impact on economic growth. Research: This focused on Indonesia, using GRDB for all provinces except for provinces that are not available. The data are for Southwest Papua, South Papua, Central Papua, and Highland Papua. The goal is for the study's results to truly reflect factors that influence poverty and its impacts on the growth of the Indonesian economy.

B. LITERATURE STUDY

Study Previously About Poverty

Alleviating poverty has become the central issue of the 17 Sustainable Development Goals. The maker policy makes an effort to reduce poverty to a minimal level. Research on the issue of poverty has been done by researchers previously (For example, Aruofor & Ogbeide, 2024; Hofmarcher, 2021; O'Donnell, 2024; Peschmann et al., 2025; Sennuga et al., 2023; Singh & Chudasama, 2020). (Singh & Chudasama, 2020) When evaluating strategies for alleviating poverty in a growing country, the results show that the government must implement a comprehensive program to lower poverty with an integrated and multidimensional approach. (Faturohim et al., 2023; Heckman et al., 2018; Hofmarcher, 2021; Sennuga et al., 2023; Susanto & Pangesti, 2019) Regardless of the education system, state-wide poverty in a country is bad. One year of extra education can lower the possibility of someone living in poverty for life. (Aruofor & Ogbeide, 2024) Find that declining Unemployment can reduce the level of poverty in Nigeria. The majority of studies are about poverty. Many studies have been done on countries' development, because one of the problems that countries face is alleviating poverty. Research this test factor that influences poverty in 34 provinces in Indonesia, because poverty in Indonesia is spread across various urban and rural regions.

Study Previously About Economic growth

Economic growth becomes an important aspect in evaluating the development of A country. Many researchers have tested topics mentioned in various countries (For example, Breunig & Majeed, 2020; Dada & Fanowopo, 2020; Nguyen et al., 2019; Soava et al., 2020; Zhou et al., 2022; Zhu et al., 2022). (Breunig & Majeed, 2020) disclose that income inequality and poverty are influential and negatively

affect economic growth, resulting in a stronger connection in countries with high poverty levels. Results in tune with those also found by (Soava et al., 2020), which Research in the country developing the European Union. (Nguyen et al., 2019; Zhu et al., 2022) Inequality and poverty can lower economic growth in Vietnam. (Zhou et al., 2022) Prove the existence of a connection between Unemployment, poverty, and economic growth through development infrastructure in the region of poor China. This is due to the poor development of the infrastructure in the area, which cannot absorb Power. (Dada & Fanowopo, 2020) Also, disclose the existence of a strong connection between the decline in poverty and economic growth in Nigeria. Research: This test examines the connection between poverty and economic growth in Indonesia, considering that the poverty level in Indonesia is still high.

Influence of Education on Poverty

Education can create *value added* for someone. Someone with a higher level of education is considered own *added* value, which is Good Because with Education, someone becomes more potent and easier to get decent Work. (Arsani et al ., 2020) The study found that education level has a significant influence on household wealth. This is because of better education. Goodwill allows someone to get more Work and earn a higher salary , so they can fulfill their daily needs and lift themselves out of poverty.

Sennuga et al (2023). Heckman et al. (2018), and Susanto & Pangesti (2019) find that the duration level of Education can reduce the possibility of someone's life in poverty. More continued, (Hofmarcher, 2021) find existence influence negative significant between duration Education with poverty , every one year extension Education can lower level poverty by 29%. Education educationove the quality of life for someone and have an impact on the decline in poverty, so the Hypothesis is as follows.

H₀: Education is not significantly influential on poverty

H₁: Education has a significant adverse effect on poverty

The Influence of Unemployment on Poverty

Unemployment means individuals who are included in the workforce but are not working. Unemployment is one of the problematic topics faced by governments around the world. Related issues with termination of work and creation of new jobs are always interesting issues for discussion. Unemployment has one of the negative impacts, which is the increase in poverty. Someone who does not Work means no income to fulfill their needs in life, which can become a trigger for them to live in poverty.

Several researchers find that the existence of a positive level of Unemployment influences poverty (Adenike, 2021; Gamba et al., 2021), proven in Nigeria (Usmanova, 2022), in Uzbekistan (Azizah et al., 2023), and in Indonesia. Unemployment can increase poverty in various countries. Unemployment can lower productivity in an area and burden society enormously. As a result, society, in a way, slowly became poor. Unemployment can reduce the opportunity for improvement in economic productivity in the region and reflects a greater social

burden, so the public gradually falls into poverty (Azizah et al., 2023). Based on the description, the second Hypothesis in the study is.

H₀: Unemployment has no significant influence on poverty

H₁: Unemployment is significantly influential on poverty

The Influence of Education on Economic Growth

Education is an important element for economic growth (Arsani et al., 2020). Education has become a sizeable and quality power source for humans, as reflected in the Human Development Index (HDI). A low HDI can lower productivity and impact the decline of economic growth (Palupi, 2020). (Maneejuk & Yamaka, 2021) disclose that basic education only equips power workers to produce goods and services. In contrast, higher education can produce graduates with the potential to change the country into an economy based on knowledge. In addition, higher education provides technology and innovation, the ability to work with high skills, and increases economic growth.

(Arsani et al., 2020) Find that the number of influential universities is positive for the economy's growth in an area; the more universities there are, the easier it is for people to receive higher education. More continued, (Habibi & Zabardast, 2020) find the existence of a positive connection between education and growth, a meaningful economy, that the more good the level of education in a country is, the more the economy is also getting better and better Education provides various training and skills so that create power Work with better quality Good so that push improvement growth economy. Thus, the third Hypothesis in the study is.

H₀: Education is not significantly influential on economic growth economy

H₁: Education has a significant positive influence on economic growth economy

The Influence of Unemployment on Economic Growth

Unemployment has become one of the problems that countries in the world face. (Saani et al., 2023) Unemployment can influence a country's economy through a decline in productivity, hindering domestic and foreign investment, lowering consumer demand, contributing to political and social instability, and causing trade imbalances. In a developing country, Unemployment becomes a serious problem because it can make the utilization of power inefficient (Mohamed & Abdi, 2024).

Unemployment has proven to lower economic growth in various countries. (Niken et al., 2023) Prove connection in Ethiopia (Mohamed & Abdi, 2024), in Somalia (Bala et al., 2020), in Nigeria (Maneejuk & Yamaka, 2021), and find that Unemployment is an influential negative to economic growth in 5 ASEAN countries, namely Indonesia, Malaysia, Thailand, Singapore, and the Philippines. However, Islam et al. (2021) find the opposite direction : Unemployment is influentially positive to a growing economy. In contrast, Sadiku et al. (2015) find no evidence of a connection between Unemployment and economic growth. It can be concluded that although their characteristics differ, Unemployment is a problem many countries face because of lower-level economic growth. So that Hypothesis four, which is built:

H₀: Unemployment has no significant influence on economic growth

H₁: Unemployment has a significantly negative influence on economic growth economy

The Influence of Poverty on Economic Growth

Poverty has become a major problem faced by countries that are developing, like Indonesia. Poverty can influence the economic growth of a country or area because it is an important indicator for evaluating an economy's performance, especially when conducting analyses of the results of economic development that has been implemented (Priambodo, 2021). (Prayitno & Yustie, 2020; Rehman et al., 2022) Find the existence of a connection between negative poverty and economic growth.

(Zaman et al., 2022) Poverty, which is measured by consumption, is an influential negative factor on economic growth in the long term, showing that improving poverty will reduce economic growth, and, on the contrary, reducing poverty can push economic growth of a country. 1% increase in poverty can lower economic growth by 0.203%. So, the fifth Hypothesis in the study is

H₀: Poverty No significant influence on economic growth

H₁: Poverty is significantly influential on economic growth economy

Influence of Education And Unemployment on Economic Growth through Poverty

Proven Education hurts poverty (Arsani et al., 2020; Heckman et al., 2018; Susanto & Pangesti, 2019). Meanwhile, Unemployment has proven to be influential in reducing poverty (For example, Adenike, 2021; Azizah et al., 2023; Gamba et al., 2021; Usmanova, 2022). On the other hand, poverty has proven to be an influential negative to economic growth (for example, Prayitno & Yustie, 2020; Priambodo, 2021; Rehman et al., 2022; Zaman et al., 2022). So that study This predict and try give proof empirical about the influence of Educationeducation on growth economy (hypothesis 6), because when somebody own more Education Good will try release himself and his family from poverty through skills and expertise possessed . Furthermore, the influence of Unemployment on a growing economy through poverty (hypothesis 7) is due to someone with higher education being more likely to get a job and not become unemployed and having a higher salary than someone with lower education, resulting in a lower poverty level. The level of poverty, which is influenced by education and Unemployment, will impact economic growth later. The second Hypothesis is explained below.

Hypothesis six :

H₀: Education has no significant influence on economic growth through poverty

H₁: Education is significantly influential on economic growth through the decline in poverty

Hypothesis seven :

H₀: Unemployment has no significant influence on economic growth

H₁: Unemployment has a significantly negative influence on economic growth through the improvement of poverty

C. RESEARCH METHOD

Study: This is a quantitative study using secondary data—selection sample with Sample Saturated. A sample fed up means the entire population is chosen as the sample for Research. Sample size fed up can be used if the population is relatively small, that is, less than 30 or between 30 and 50 (Makarim, 2022). Population in study. This is all over the provinces in Indonesia, which number 38. The sample included all provinces; however, Southwest Papua, South Papua, Central Papua, and Highland Papua were excluded because no data were available. The number of samples in 34 provinces from 2015 to 2023. So, a total of 306 observations. Data analysis was carried out using panel data regression to test the influence of No Direct Education and Unemployment on the economy's growth through poverty using the Sobel Test. The research model that was built is as follows.

$$Pov_{it} = \alpha + \beta_1 Edu_{it} + \beta_2 UEM_{it} + \varepsilon_{it} \dots \dots \dots \text{Eq.1}$$

$$GRDB_{it} = \alpha + \beta_1 Pov_{it} + \beta_2 Edu_{it} + \beta_3 UEM_{it} + \varepsilon_{it} \dots \dots \dots \text{Eq.2}$$

Information :

- Pov: Measured poverty with the percentage of poor people
- Edu: Education is measured by the percentage completion of high school education
- UEM: Unemployment measured with the level of Unemployment in the open province
- GRDB: *Gross Regional Domestic Product* to measure the growth of the economy of each province

D. RESULTS AND DISCUSSION

Statistics Descriptive

Before analyzing statistical results, it is important to see how the research data is distributed. The following is a descriptive statistics table.

Table 1
Statistics Descriptive

Variables	Observation	Minimum	Maximum	Mean	Median	St. Dev
GDP (Trillion)	306	26.64	20,892.38	920.54	202.43	2,925.99
POV (%)	306	3.45	28.47	10.87	9.75	5.57
EDU (%)	306	27.44	90.12	61.68	62.65	11.48
UEM (%)	306	1.14	10.02	5.05	4.67	1.72

Source: Secondary Data Processed (2024)

Table 1 presents a description of each variable in the study. GDP (*Gross Domestic Product* province) shows a marked standard deviation of Rp. 2,925.99 trillion with a minimum value of Rp. 26.64 trillion and a maximum of Rp. 20,892.38 trillion shows a significant difference in growth between provinces in Indonesia. The poverty rate (POV) shows the average value is 10.87%, which shows the still high poverty rate in Indonesian society, namely 10.87 percent, from around 270

million people, or as many as 27 million Indonesian people, who are in poverty. From Table 1, it can also be seen that the level of education in Indonesia is still unequal. There is quite a difference in the percentage of students who can finish high school; there are provinces where only 27% of the population can finish high school. On the other hand, there are provinces with higher high school completion rates of 90%. This implies the government needs to review provinces that are at the level of their education, still low, such as Papua, West Kalimantan, and East Nusa Tenggara. The province with the lowest high school completion level. Last, the unemployment value is the highest, 10.02, which means some provinces have unemployment rates that are high enough, namely West Java. Meanwhile, Bali province has had the lowest unemployment rate from 2019 to 2023.

Test Results and Proof of Hypothesis

Study this using panel data, so model testing with an objective is needed to select the best estimation model as the base analysis, whether *Common Effect* (CE), *Random Effect* (RE), or *Fixed Effect* (FE). The following are the results of the test.

Table 2
Estimation Model Test Results Best

	Basis of Assessment	Prob. Value	Decision
Substructural Model 1			
Chow	Cross-section Chi-square	0.0000	FE
Hausman	Random cross-section	0.0101	FE
Substructural Model 2			
Chow	Cross-section Chi-square	0.0000	FE
Hausman	Random cross-section	0.0431	FE

Source: Secondary Data Processed (2024)

The table above shows that the Chow test and the Hausman test results for both research models are for a Fixed Effect, which means that the research results and the proof of the Hypothesis are based on *the fixed effect model*. Using FE, the following statistical results were obtained from the statistical testing done in the study.

Table 3
Test Results Influence Direct

Variables	Substructure 1: FE	Substructure 2: FE
	Dependent: POV _{it}	Depends on: GRDP _{it}
EDU _{it}	-0.056*** (0.000)	0.016*** (0.000)
UEM _{it}	0.389*** (0.000)	-0.008 (0.568)
POV _{it}	-	-0.132*** (0.000)
Constant	12,337*** (0.000)	19,875*** (0.000)
F-Test	588,331*** (0.000)	832,041*** (0.000)

Adjusted R-Square	0.9854	0.9899
*** Significant at $\alpha=1\%$, prob value in brackets		
Source: Secondary Data Processed (2024)		

Table 3 shows the study results for the substructural one and substructural two models using FE. In substructural 1, the EDU value shows significance of 0.000 with a mark coefficient of -0.056, meaning that education significantly negatively affects poverty. Every 1 percent increase in education level results in a 0.056 percent decrease in poverty. So, that can result in Hypothesis First rejecting H_0 and accepting H_a . This result supports Research conducted by Heckman et al. (2018), Hofmarcher (2021), and Susanto and Pangesti (2019), which found that education level can reduce poverty. An increasingly capable society finishes high school education. Then more communities can get better work and earn a higher income to free themselves from poverty. The UEM probability value is 0.000 with a coefficient of 0.389, meaning Unemployment significantly influences poverty. There is 1% increase in the unemployment rate so that poverty will increase by 0.389%. So, for the second Hypothesis, reject H_0 and accept H_a . This result supports (Adenike, 2021; Azizah et al., 2023; Gamba et al., 2021; Usmanova, 2022). Unemployment causes someone to have no income to fulfill the needs of their life, so someone who does not have Work will have a more difficult life in poverty.

In *substructural 2*, the value EDU probability is 0.000, with a coefficient of 0.016, which means that education level positively and significantly influences the growth of a meaningful economy. There is an increase in the education level, and 1% can increase the economy's growth by 0.016 percent. So, hypothesis 3 is proven, reject H_0 and accept H_a . The result supports (Arsani et al., 2020; Habibi & Zabardast, 2020) who found the existence of a positive impact of education on economic growth. An educated person can push productivity to a higher level. High productivity later will encourage and improve the growth of the economy. However, for Hypothesis 4, the decision is to accept H_0 and reject H_a because its significance is 0.568 or more significant than alpha. So it can be concluded that Unemployment does not influence the economy's growth, in line with (Sadiku et al., 2015). This possibility is caused by the occurrence of COVID-19 from 2019 to 2021. During the COVID-19 period, public movement was limited, which resulted in lower power sales and caused company sales to decrease or even experience a loss. Because of the loss, many companies are carrying out mass layoffs, and Unemployment is increasing. On the other hand, COVID-19 also influences economic growth. It can be concluded that the level of Unemployment does not influence economic growth because the occurrence of COVID-19 has a significant impact on the economy of A country.

Next, POV has a mark probability of 0.000 and a coefficient of -0.132, which means that the poverty level is significantly influential and negative on economic growth. There is an increase in the level of poverty 1% 1%, followed by a decline in economic growth of -0.132 (Hypothesis five rejects H_0 and accepts H_a). This result supports (Amin et al., 2020; Prayitno & Yustie, 2020; Priambodo, 2021; Rehman et al., 2022), proving that high poverty levels can lower economic growth. A growing economy is influenced by consumption, while a poverty-based society has low consumption. So, the more poor people in a region, the more limited the

consumption of household items, which causes a decline in the level of economic growth in the region. Finally, researchers try to see the influence of the lack of direct education level and Unemployment on the growth of the economy through the decline in poverty using the Sobel Test. The following is the result.

Table 4
Indirect Effect Test Results Using the Sobel Test
Dependent: GRDP_{it}

Variables	t_{table}	t_{count}
EDU _{it}	1,968	6,124
UEM _{it}	1,968	-5,326

Source: Secondary Data Processed (2024)

Based on Table 4, it can be seen that the results t_{count} using the Sobel test of 6.124 for EDU and -5.326 for UEM, which means education level has a positive and significant influence on economic growth in a way, not directly through poverty. In contrast, high unemployment significantly negatively affects the growth of an economy in a way that is not directly through poverty. So, the hypothesis test results were six points, and H_0 was rejected and H_a accepted.

E. CONCLUSION

Study: This test examines the connection level of Education, Unemployment, poverty, and economic growth in Indonesia. Panel data is constructed using 34 provinces as the cross-section and 9 years from 2015 to 2023 as the time series data. Research proves that education level and Unemployment influence poverty and economic growth. Education has a negative influence on poverty and a positive influence on economic growth. Meanwhile, Unemployment is an influential factor in poverty; however, it is not influential to the economy's growth. The poverty rate has also been proven to lower the growth of an economy. Furthermore, research proves that education and unemployment are influential factors in the growth of an economy that is out of poverty. Research. This only uses samples from one country, Indonesia. Furthermore, Research can test the topic in different countries because several researchers have proven the existence of differences in results studied in different countries.

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