



## Why are Unemployment and Poverty Still Happening in Borneo Island, Indonesia?

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### ABSTRACT

Efforts to alleviate unemployment and poverty must be done comprehensively, cover various aspects of community life, and be implemented in an integrated manner. The research aims to explain the relationship between variables directly, indirectly, and as a whole, to find out how much influence the minimum wages, education, and inflation rates on unemployment and poverty. The analytical approach through panel analysis based on the panel-common effect in 2015-2019 in 5 regions (West, Central, South, East, and North Borneo Island). Empirical findings state that minimum wages have a negative and significant effect on unemployment, while education has a positive and significant effect on unemployment, and inflation rates have a positive and not significant effect on unemployment. Unemployment has a positive and insignificant effect on poverty. Minimum wages have a negative and insignificant effect on poverty through unemployment, while education and inflation rates are both positive and not significant effects on poverty through unemployment. An increase in the informal sector is needed to reduce unemployment and poverty because the informal sector is the main solution to address this problem.

**Keywords:** Minimum Wages, Education, Inflation Rates, Unemployment, Poverty

**JEL Classifications:** E24, E31, I3

### 1. INTRODUCTION

The terms unemployment and poverty arise when a person or group of people are unable to meet the level of economic prosperity which is considered as a minimum requirement of a certain standard of living. In the sense of proper, unemployment and poverty are understood as a state of lack of money and goods to ensure survival. In broad terms, Suryawati (2005) said that poverty is an integrated concept that has five dimensions, namely: poverty (proper), powerless, state of emergency, dependence, and isolation (both geographically and sociologically). Someone qualifies as poor if his income is below the unemployment rate and poverty line.

Over the years, the relationship between poverty and unemployment have been seemingly unclear, since being unemployed usually result to fall in one's living standard due to the absence of income, and it is as well possible for one to be employed and still be poor. Even with the policy of unemployment reduction and poverty alleviation being the core goals in many developing countries, attaining this objective have relatively defeated with the high incidence of both poverty and unemployment (Agenor, 2004).

Poverty is one of the fundamental issues which become a major concern of the Indonesian government. One of the poverty causes is inevitable unemployment. Unemployment indicator

selection based on the fact that the indicator is directly related to income levels. The world Poverty Commission also noted that unemployment is a major cause of poverty (Saunders, 2002).

Theoretically, the poverty rate will move to follow the rate of unemployment. In this case when the unemployment rate increase then the poverty level will automatically increase. The positive relationship between poverty and unemployment are found in several countries. In Korea, for example, Park et al. (2002) found a very strong relationship between poverty levels and unemployment rates. When the unemployment rate increases, the poverty rate also rose and when the level of unemployment inclined, the poverty levels also fell.

Akwara et al. (2013) examine the relationship between unemployment, poverty, and insecurity in Nigeria. The study thus discovered that unemployment causes poverty, while poverty causes insecurity. In contrast to the above findings, Ogbeide and Agu (2015) investigates the causal relationship between poverty and inequality in Nigeria with the use of Granger causality and time-series data from 1980 to 2010, which thus revealed the absence of Granger causality running from unemployment to poverty, instead the existence of one-way causality from poverty to unemployment.

Can be concluded that relationship between education level and poverty are not mutually independence or influence, the relationship between poverty and unemployment is not independence or influence each other, the relationship between unemployment and income is interdependence or mutual influence, the relationship between income and education level is interdependence or mutual influence, the relationship between education level and unemployment are not mutually independence or influence, the relationship between income and poverty is interdependence or mutual influence. Furthermore, there is a very interesting finding of the relationship interdependence is negative between education level and income, especially higher education level and income (Kurniawan et al., 2015).

The focus of the study is on several models that affect unemployment and poverty between regions on Borneo Island. The unemployment rate for the region experiences different characteristics. Broadly speaking, the special magnitude in North Borneo as the newest (34<sup>th</sup>) Province in Indonesia has consistently decreased over time. This is indicated by unemployment in 2015 reaching 6.47% and continuing to decrease to 5.22% (2019). On the other hand, the other four regions (West Borneo, South Borneo, Central Borneo, and East Borneo) tend to fluctuate in reducing the population classified as unemployment. Based on the records of the Indonesian Central Statistics Agency (2019), for comparison over the past 5 years, East Borneo Province holds the largest unemployment rate among others, namely 7.38 for 2015, in 2016 at the level of 7.50%, 7.95% (highest unemployment) in 2017, the period after that is 2018 is 6.91%, and the last is 2019 through 6.60%.

From 2015 to 2019, the characteristics of the population classified as poor between these regions were quite different. This is marked

by the success to reduce poverty pockets quite successfully. On the other hand, the development of poverty in the Provinces of West Borneo and North Borneo is still uneven. When making comparisons in 5 years, West Borneo is the province with the most dominant poverty rate among others, with each 2015 achievement of 8.07%, 2016 being 8.44%, 2017 reaching 8.00%, slightly decreasing to 7.68% (in 2018), and finally in 2019 poverty is at 7.37%.

Furthermore, it is hoped that in the future the regional government will focus on strategic policies, such as increasing minimum wages, encouraging the education sector through compulsory education (12 years), and scholarships, to controlling inflation because most of the population classified as unemployed and poor are in the countryside or earn a living as farmers and fishermen. Expectations for a variety of strategic steps will accelerate the decline in unemployment and the number of poor people on the island of Borneo because it directly leads to a central area that is a major milestone in the problem, so, for example, this program can continue to be sustainable.

From some of the data presented previously, it can be seen that the development of unemployment and the poor population of 5 Provinces in Borneo over a period of time has different characteristics, but in general, tends to be unstable. The government and various parties realize that regional development is an effort to achieve the goals of a just and prosperous society. In line with these objectives, various development activities have been directed towards regional development, especially areas that are relatively underdeveloped. Therefore, various key indicators of the success of the development are the determination of adequate wages, improvements in education, and inflation control in the field. Effectiveness in reducing unemployment and poverty rates is the main goal in choosing a development strategy or instrument.

The research aims to explain the relationship between the independent variables with the dependent variable directly, indirectly, and overall. So, to find out how much influence the minimum wages, education, and inflation rates on unemployment and poverty using two models.

## 2. LITERATURE REVIEW

In the labor market, it is very important to determine the number of wages that companies must pay to their workers. Various regulations regarding minimum wage set the lowest price of labor to be paid (Mankiw, 2006). The main objective of setting a minimum wage is to meet minimum living standards such as for the health, efficiency, and welfare of workers. Wages are efforts to raise the level of low-income populations, especially poor workers.

The level of education has a role in unemployment but also foreign research as conducted by Voss et al. (2004) states that unemployment is associated with an increased risk of suicide and other death cases. By using interview methods through information on unemployed experiences, and one's social behavioral health and personality. Low levels of education, personal characteristics, use of sedative drugs, and prolonged illness have a strong relationship between unemployment and mortality.

According to Dernburg and Muchtar (1992), if the desired inflation rate is low, there will be a very high unemployment rate. Conversely, if the desired inflation rate is high, a relatively low unemployment rate will occur. The relationship between the inflation rate and unemployment is illustrated by Phillip's Curve. There is a tendency that the inflation and unemployment rates rise or direct relationship (there is no trade-off) then it shows that there is a difference with the Phillip's Curve where there is a trade-off between low inflation or low unemployment rates.

The concept of poverty involves multidimensional, multi-definition and alternative measurement. Poverty is one of the problems that are difficult to define and explain. In general, poverty can be measured in two dimensions, namely the income or wealth dimension and the non-financial dimension. Poverty in the income or wealth dimension is not only measured by the low income received because low income is usually temporary, but is also measured through the ownership of assets such as land for small farmers and through access to public services. Meanwhile, from the dimension of non-financial factors, it is characterized by hopelessness or helplessness which can also affect various low-income households (Bellinger, 2007).

Education in many countries is a way to save yourself from poverty. Where described by a poor person who expects good work and high income, that person must have a high level of education. However, higher education can only be achieved by the rich. Meanwhile, the poor do not have enough money to pay for education to a higher level such as high school and university. The education is a fundamental development goal. Where education plays a key role in shaping a country's ability to absorb modern technology and to develop capacity, to create sustainable growth and development (Todaro, 2000).

Poverty in a country is partly caused by inflation as a consequence of the economic development process. Inflation describes an imbalance of the money supply with the volume of goods and services available in the economy. Thus, inflation will be marked by an increase in the price of most of the goods that occur. The trigger for inflation whether in terms of demand or cost is strongly influenced by the type of economic crisis that befell the country (Tambunan, 2011).

The bad effect of unemployment is reducing people's income and ultimately reducing the level of prosperity one has achieved. The decline in people's welfare due to unemployment will certainly increase their chances of being trapped in poverty because they have no income. If unemployment in a country is very bad, political and social chaos always prevails, thus having a bad effect on the welfare of society and the prospect of long-term economic development (Sukirno, 2004).

### 3. RESEARCH DESIGN AND METHODOLOGY

This research is based on descriptive and explanatory research. Said to be descriptive because this study describes the object

under study (Ruslan, 2006). Furthermore, this study examines the relationship between variables, so this research is classified as explanatory research, namely research that intends to test and explain the relationship between independent variables (exogenous) and dependent variables (endogenous).

There are 5 variables to be examined, namely: minimum wages, education, inflation, unemployment, and poverty with path analysis techniques through SPSS software. Secondary data-based research originating from Government Agencies. With the 2015 panel-common effect data dead until 2019 in the Borneo region (West, Central, South, East, and North).

The type of data used is panel-quantitative data which has already been written and has been officially published in Government documents through a website (online) so that secondary data is following the needs of researchers. Quantitative data is data in the form of numbers and can be calculated by arithmetic units (Sugiyono, 2002). With panel data, here are the data details of each variable usage (Table 1).

Based on the analysis model used, it is divided into two forms of the structural equation as follows:

$$Y_1 = \rho_1 Y_1 X_1 + \rho_2 Y_1 X_2 + \rho_3 Y_1 X_2 + Y_1 \varepsilon_1 \quad (1)$$

$$Y_2 = \rho_4 Y_2 Y_1 + Y_2 \varepsilon_2 \quad (2)$$

Where,  $Y_1$  (Unemployment);  $Y_2$  (Poverty);  $X_1$  (Minimum Wages);  $X_2$  (Education);  $X_3$  (Inflation rates);  $Y_1 \varepsilon_1$ ,  $Y_2 \varepsilon_2$  (Error term);  $\rho_1 Y_1$ ,  $\rho_2 Y_1$ , etc (Parameters sought).

### 4. RESULTS AND DISCUSSION

The direct effect is calculated as in standardizing regression weight (coefficient). From model-1,  $X_1$ ,  $X_2$ , and  $X_3$  have a direct influence on  $Y_1$ . The total effect of each exogenous variable on  $Y_1$  is the same as the direct effect. Writing the model-1 in standard form is:

$$Y_1 = \rho_1 -0.289 + \rho_2 1.035 + \rho_3 0.166 + \varepsilon_1 0.211 \quad (3)$$

Error-values that occur in each endogenous variable are as follows (Sambas and Maman, 2009):

$$\varepsilon_1 = \sqrt{1-R^2} Y_1 (X_1, X_2, X_3) \quad (4)$$

$$= \sqrt{1-0.789} = 0.211 \quad (5)$$

The influence between exogenous variables (Unemployment) and endogenous variables (Poverty) can be explained by function-2, exogenous variables =  $Y_1$  and endogenous variables =  $Y_2$ . The direct effect is calculated as in standardizing regression weight (coefficient). From the models,  $Y_1$  has a direct influence on  $Y_2$ . The total effect of each exogenous variable on  $Y_2$  is the same as the direct effect. Writing the form equation function as follows:

$$Y_2 = \rho_4 0.109 + \varepsilon_2 0.469 \quad (6)$$

The magnitude of the variable error Unemployment is 0.211. In the path analysis function (model 1), the following path model in Figure 1.

The error value that occurs in the poverty variable with the factors that influence it is described as follows:

$$\varepsilon_2 = \sqrt{1-R^2 Y_2 (Y_1)} \quad (7)$$

$$= \sqrt{1-0.531} = 0.469 \quad (8)$$

The magnitude of error in the poverty variable is 0.469. Based on this function, for correlation values see the previous equation in Figure 2.

The total effect is the sum of direct and indirect effects with this provision, so the total effect of all research variables can be explained in Table 2.

It can be concluded that there is 1 exogenous variable, namely the minimum wage (model 1), to the endogenous variable is negative. Meanwhile, the exogenous variable (Unemployment) from model 2 directly has a positive effect on endogenous variables. Evidenced by the influence between Education on Unemployment has the highest path coefficient value of 1.035. Inversely when compared with the direct path coefficient between unemployment to poverty that is 0.109. Similar to the indirect effect, between education and the level of inflation which have positive coefficient values for poverty through unemployment with values of 0.112 and 0.018, respectively, compared to the minimum wage effect on poverty through unemployment with the lowest coefficient of -0.031. In more detail, each model path can be described as follows (Figure 3).

Based on the results of the analysis, it is known the magnitude of the influence of model 1 regarding the effect of the minimum wages (X<sub>1</sub>), education (X<sub>2</sub>), and inflation rates (X<sub>3</sub>) as exogenous

variables on endogenous variables namely unemployment (Y<sub>1</sub>). Meanwhile, from model 2 there is a result of the effect of unemployment (Y<sub>1</sub>) on poverty (Y<sub>2</sub>). Finally, the results of the calculation of the accumulation of the three exogenous variables on poverty (Y<sub>2</sub>) through unemployment (Y<sub>1</sub>) as intervening variables. The results of path analysis and hypothesis testing are explained.

Figure 1: Relationship structure X<sub>1</sub>, X<sub>2</sub>, and X<sub>3</sub> to Y<sub>1</sub>

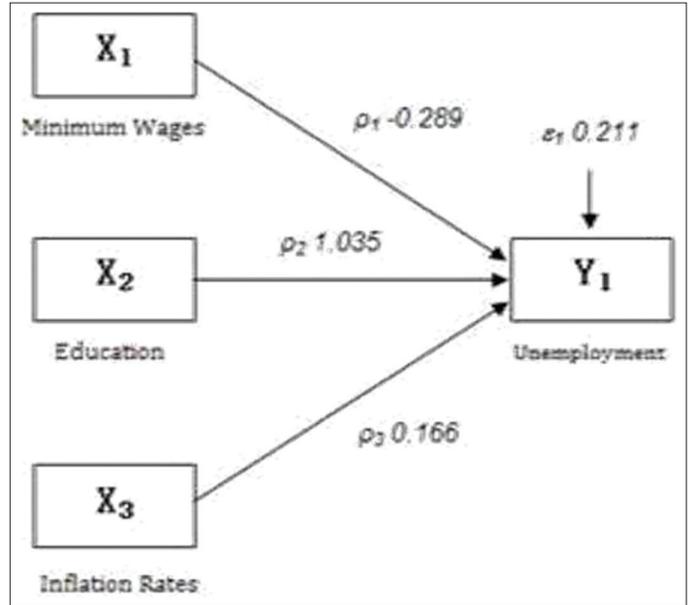


Figure 2: Relationship of structure Y<sub>1</sub> to Y<sub>2</sub>

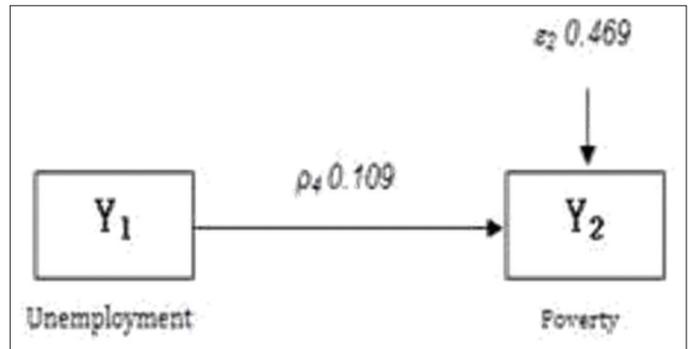


Figure 3: Complete relationship structure path

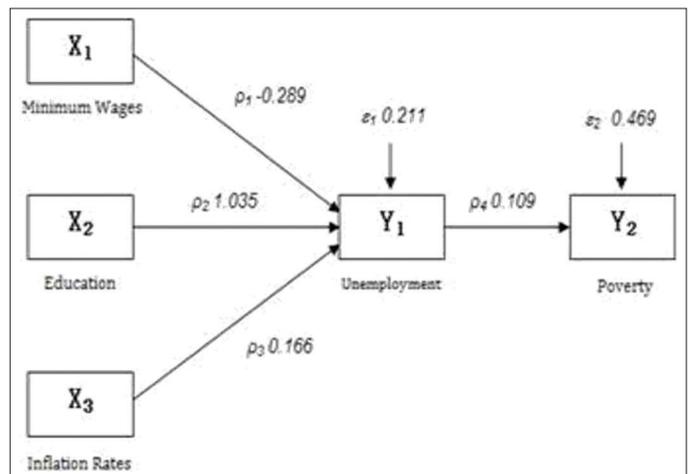


Table 1: Recapitulation of data requirements

Variables	Objects (area)	Year	Panel data
Minimum wages	5	5	25
Education	5	5	25
Inflation rates	5	5	25
Unemployment	5	5	25
Poverty	5	5	25
Total	25	25	125

Source: Researcher design (2020)

Table 2: Direct, indirect, and total effect results

Relationship	Direct influence	Indirect effects	Total influence
X <sub>1</sub> --->Y <sub>1</sub>	-0.289	-	-0.289
X <sub>2</sub> --->Y <sub>1</sub>	1.035	-	1.035
X <sub>3</sub> --->Y <sub>1</sub>	0.166	-	0.166
Y <sub>1</sub> --->Y <sub>2</sub>	0.109	-	0.109
X <sub>1</sub> --->Y <sub>1</sub> --->Y <sub>2</sub>	-	-0.289×0.109=-0.031	-0.031
X <sub>2</sub> --->Y <sub>1</sub> --->Y <sub>2</sub>	-	1.035×0.109=0.112	0.112
X <sub>3</sub> --->Y <sub>1</sub> --->Y <sub>2</sub>	-	0.166×0.109=0.018	0.018

Source: SPSS output, calculation. The probability level is 5%

From Table 3, the results of hypothesis testing show that the pathway (model 1) was found to have a significant effect so that no pathway was removed. Meanwhile, from model 2, the path coefficient has a non-significant effect. Under the framework of the research concept, two linear functions can be produced, namely: structural models 1 and 2. Both functions produced simultaneously are combined into a path model. Exogenous variables are variables that affect endogenous variables.

Baron and Kenny (1986) state that a variable is called an intervening variable if the variable also influences the relationship between the independent variable and the dependent variable. Testing mediation hypotheses can be done with a

procedure developed by Sobel (1982) and is known as the Sobel test.

By calculating the indirect effect of the Minimum Wages to Poverty through Unemployment by multiplying the t-test path  $X_1 - Y_1$  (a) with t-test  $Y_1 - Y_2$  (b) or tab  $(-0.289 \times 0.109)$  of the multiple tests. The indirect effect of the minimum wages on poverty through unemployment is the path coefficient of  $-0.031$  with a probability of  $0.578$  ( $\text{sig} > 0.05$ ), or in other words a negative and insignificant impact. Therefore, the hypothesis put forward was accepted (Figure 4).

Figure 5 explains the indirect effect of Education on Poverty through Unemployment by multiplying the path t-test  $X_2 - Y_1$  (a) with t-test  $Y_1 - Y_2$  (b) or tab  $(1.035 \times 0.109)$  from the multiple tests. The indirect effect of Education on Poverty through Unemployment is the path coefficient of  $0.112$  with a probability of  $0.584$  ( $\text{sig} > 0.05$ ), or in other words a positive and insignificant impact. Therefore, the hypothesis put forward was rejected.

Referring to Figure 6, the indirect effect of the Inflation Rate to Poverty through Unemployment by multiplying path t-test  $X_3 - Y_1$  (a) with t-test  $Y_1 - Y_2$  (b) or tab  $(0.166 \times 0.109)$  with the multiple tests. The indirect effect of the inflation rate on poverty through unemployment is a path coefficient of  $0.018$  with a probability of  $0.588$  ( $\text{sig} > 0.05$ ), or in other words a positive and insignificant impact. Therefore, the hypothesis put forward was rejected.

**Table 3: Path coefficient and hypothesis testing**

Hypothesis	Variables	Standardized coefficient (β)	t-test	Sig.
1	$X_1 \rightarrow Y_1$	-0.289	-2.047	0.053
2	$X_2 \rightarrow Y_1$	1.035	8.016	0.000
3	$X_3 \rightarrow Y_1$	0.166	1.475	0.155
4	$Y_1 \rightarrow Y_2$	0.109	0.525	0.604
5	$X_1 \rightarrow Y_1 \rightarrow Y_2$	-0.031	-	0.578
6	$X_2 \rightarrow Y_1 \rightarrow Y_2$	0.112	-	0.584
7	$X_3 \rightarrow Y_1 \rightarrow Y_2$	0.018	-	0.588

Source: SPSS output, calculation. The probability level is 5%

**Figure 4: Sobel test variable  $X_1$  against  $Y_2$  through  $Y_1$**

Input:	Test statistic:	Std. Error:	p-value:
a -0.289	Sobel test: -0.55612245	0.056644	0.57812715
b 0.109	Aroian test: -0.55612245	0.056644	0.57812715
$s_a$ 0.000	Goodman test: -0.55612245	0.056644	0.57812715
$s_b$ 0.196	Reset all	Calculate	

Source: <http://quantpsy.org/sobel/sobel.htm>, calculation (2020)

**Figure 5: Sobel test variable  $X_2$  against  $Y_2$  through  $Y_1$**

Input:	Test statistic:	Std. Error:	p-value:
a 1.035	Sobel test: 0.54696403	0.20625671	0.58440344
b 0.109	Aroian test: 0.52018249	0.21687581	0.60293639
$s_a$ 0.342	Goodman test: 0.57835947	0.19506035	0.56302145
$s_b$ 0.196	Reset all	Calculate	

Source: <http://quantpsy.org/sobel/sobel.htm>, calculation (2020)

**Figure 6: Sobel test variable  $X_3$  against  $Y_2$  through  $Y_1$**

Input:	Test statistic:	Std. Error:	p-value:
a 0.166	Sobel test: 0.54143371	0.03341868	0.58820868
b 0.109	Aroian test: 0.50086603	0.03612543	0.61646541
$s_a$ 0.070	Goodman test: 0.59378238	0.03047244	0.55265768
$s_b$ 0.196	Reset all	Calculate	

Source: <http://quantpsy.org/sobel/sobel.htm>, calculation (2020)

It can be concluded, the two exogenous variables (Education and inflation rates) indirectly have a positive and not significant impact on endogenous variables (Poverty) through intervening variables (Unemployment). Thus, unemployment ( $Y_1$ ) is considered not a mediating variable between education ( $X_2$ ) and inflation rate ( $X_3$ ). Meanwhile, the minimum wages ( $X_1$ ) has a negative and insignificant impact on poverty through unemployment. In this regard, Unemployment is appropriate as an intervening variable.

Referring to the scope of the study, it aims to analyze how much the direct and indirect influence of the minimum wage, education, and inflation rate on unemployment and poverty between regions in Borneo.

The observations of the research observations revealed several things, including concerning unemployment, minimum wages had a negative and significant effect, while education had a positive and significant effect, and the inflation rate had a positive and insignificant effect. About poverty, the minimum wage has a negative and significant effect, while education has a positive and significant effect, the inflation rate has a positive effect, and unemployment has a negative effect. Towards poverty through unemployment, minimum wages have a negative and insignificant effect, while Education and Inflation Rate have a positive and insignificant effect.

## 5. CONCLUSION AND FINAL REMARKS

The results of the study revealed that for unemployment, minimum wages had a negative and significant effect, while education had a positive and significant effect, while the Inflation Rates had a positive and not significant effect. Regarding poverty, unemployment has a positive and insignificant effect. For poverty through unemployment, minimum wages have a negative and insignificant effect, while education and inflation rates are both positive and insignificant.

The increase in minimum wages on Borneo Island which has an impact on reducing unemployment and poverty should be done by considering the conditions of workers and companies so that there is no reduction in workers' welfare and also does not harm the company.

Education, which is reflected in the high expectations of old schooling, has a negative influence on unemployment, so it is hoped that the government in 5 regions will again promote the eradication of school dropout programs, to reduce unemployment.

Stabilizing the inflation rate or adjusting wages for changes in the inflation rates. High inflation will not have a significant effect on unemployment or poverty if nominal wages always follow changes in the inflation rates. In this way, the population of Borneo Island can still meet their needs even though inflation continues to change.

Limitations and shortcomings of this study are in the period under study, due to special data North Borneo Province is still constrained (due to the new area of expansion). For future researchers, it is expected to use a longer period, so that it can obtain representative

results, as well as adding other variables that affect unemployment and poverty.

There has never been a study that discusses unemployment and poverty with variables that affect it in the Borneo region. Borneo Province is a region that is rich in natural resources (oil, gas, and coal commodities), but there are still social inequalities, limited population productivity, infrastructure, and economic instability that makes the problem of this research. Besides, the period of observation with the latest data, so this study is very interesting as a reference for other researchers in the future.

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