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# Dynamics and Determinants of Poverty in West Indonesia and East Indonesia

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**Abstract- Based on the region, Indonesia can be divided into two areas, West Indonesia and East Indonesia. East Indonesia always receives attention and priority from Indonesia Government. However, until now regional equity and poverty are still worse compared to West Indonesia. The objectives of this study are 1) to explain the causality of economic growth, poverty, and income inequality in West Indonesia and East Indonesia; and 2) to examine the determinants of poverty in west Indonesia and east Indonesia. This study applies cross-sectional and panel data techniques o a provincial-level data set for 2012 to 2019. The results of this study show that (1) there is a causal relationship between economic growth and poverty in West Indonesia and East Indonesia; (2) there is a causal relationship between economic growth and inequality only happened in East Indonesia; (3) there were differences in factors affecting poverty in East Indonesia and West Indonesia. Poverty in West Indonesia is influenced by mean years of school, regional economic growth per capita, and life expectancy. Different results are shown in East Indonesia, the variable; that have a significant effect on poverty are mean years of school, population, clean water capacity, investments, and life expectancy.**

**Keywords- Economic Growth, East Indonesia, Inequality, Poverty, West Indonesia.**

## I. INTRODUCTION

The problem between East Indonesia (Kawasan Timur Indonesia/KTI) and West Indonesia (Kawasan Barat Indonesia/KBI) is a strategic issue in regional development. There is still a gap between the East and West of Indonesia. It is marked by 1) High poverty rates in East Indonesia; 2) The concentration of economic activities in West Indonesia; 3) Limited facilities and infrastructure as well as accessibility in disadvantaged areas and border areas dominated by East Indonesia. [5]

In the last decade, the poverty rate in East Indonesia has slowly decreased until 2020 reaching 9.74 percent in KBI and 11.92 percent in KTI [6] . In this case, the provinces in the KBI area can reduce the poverty rate faster than the KTI area. The rate of decline in the poverty rate in the KBI provinces is 1.2 percent per year, while the poverty rate in the KTI provinces has decreased by only 0.15 percent per year. The slower rate of poverty reduction in KTI has resulted in a relatively high poverty rate in the KTI region. The difference in the rate of ability to reduce poverty levels shows that development in KBI is more advanced than in KTI. [13]

Economic growth is believed to have a significant effect on reducing poverty. The effectiveness of economic growth in reducing poverty can certainly vary from region to region. Based on Table 1, the economic growth rate of KTI has relatively positive growth until 2019, but with elasticity to the poverty rate, it has decreased so that the rate of poverty reduction in KTI tends to slow down.

Table 1. Economic Growth Rate, Poverty Rate, and Income Inequality.

| Indicator | West Indonesia | East Indonesia | National |
|---|---|---|---|
| Economic Growth Rate | | | |
| 2015 | 4.55 | 5.71 | 5.03 |
| 2019 | 4.99 | 6.16 | 5.02 |
| Poverty Rate | | | |
| 2015 | 10.21 | 13.14 | 10.86 |
| 2019 | 8.73 | 12.17 | 9.41 |
| Income Inequality | | | |
| 2015 | 0,36 | 0,36 | 0,39 |
| 2019 | 0,34 | 0,35 | 0,38 |

Source: BPS (2020)

Income inequality analysis through the Gini index (Table 1) provides information that there is income inequality in

the KBI and KTI areas, ranging from the Gini figure of 0.34-0.36. The level of income inequality in the two regions can be an obstacle and reduce the effectiveness of economic growth in reducing poverty levels. The unequal income distribution factor causes the trickle-down effect theory to not work with the development theory.

In addition to the economic conditions in the two regions, the differences in poverty conditions that occur between regions in Indonesia are possible due to different factors and other root causes. The condition of poverty is inseparable from the accessibility and connectivity needed for mobility and economic activity. The topographical characteristics of the region which are separated from valleys, and mountains, and spread over small islands have resulted in isolation in several provinces of East Indonesia. This isolation has hampered population mobility, distribution of goods and services, economic activity, and the provision of basic services to the community, resulting in disparities in commodity prices and logistics costs.

Table 2. HDI indicators and population 2020.

| Region | HDI | Population |
|---|---|---|
| West Indonesia | 71.99 | 214,565 |
| East Indonesia | 69.06 | 55,738 |
| Indonesia | 71.94 | 270,203 |

Source: BPS (2021)

Based on the Human Development Index (HDI), the provinces in KBI are superior to the KTI HDI (Table 2). This illustrates that the level of human development in the KBI area is able to absorb and manage sources of economic growth, technology, capital, and institutions as an important means to achieve economic growth. The main characteristics of the interrelated causes and effects of poverty are inadequate educational infrastructure and facilities as well as poor health facilities and consumption patterns so that only a part of the workforce is productive [10]. In addition, the government's focus on building an investment climate in areas that have pockets of poverty can encourage economic growth in these areas and can reduce poverty levels. [30]

Development problems do not only occur in KTI, the high level of population density in KBI needs special attention. The composition of the population living in the West Region of Indonesia is around 70 percent of the entire population of Indonesia. The highest population density in 2019 was in DKI Jakarta Province, which was 15,900 people/km$^{2.}$ and in West Java at 1,394 people/km$^{2}$. An increase in population will increase the number of poor people. [26]

Based on the background and description of the problem, the focus of the formulation of the problem in this study is 1) how is the causal relationship between economic growth and income inequality with poverty? 2) What are the determinant of poverty in the West Region of Indonesia and the East Region of Indonesia?

## II. LITERATUR REVIEW

**1. Poverty:**
Absolute poverty is a group of people who are unable to have sufficient resources to meet basic needs [31]. Furthermore, poverty has two dimensions, namely the income dimension and the non-income dimension. Poverty in the income dimension is defined as low income households, while in the non-income dimension; poverty is characterized by incompetence, hopelessness, lack of representation, and freedom. [4] In Indonesia, the method of calculating the poor is carried out by BPS using the basic needs apply the approach. Through this approach, poverty is defined as the inability to meet basic needs. In other words, poverty is seen as an economic inability to meet basic food and non-food needs by measuring the expenditure side. People who have an average monthly per capita expenditure below the poverty line are categorized as poor [6].

**2. Poverty and Economic Growth:**
Most economists believe that economic growth contributes significantly to poverty reduction (Perry et al, 2006). The benefits of increased economic growth will gradually trickle down from the rich to the poor such as through economic functions. Several previous studies have been conducted on the relationship between poverty and economic growth. Economic growth affects inequality and poverty in East and South Asia. The findings indicate that economic growth has a negative impact on poverty, and the level of macroeconomic stability in the region is a determining factor in the success of economic growth in East and South Asian countries [12].

The relationship between poverty and economic growth. According to the findings of this study, there is a two-way causality relationship between economic growth and poverty in the short term [18]. Meanwhile, in the long term, there is a unidirectional causality relationship between economic growth and poverty. Higher economic growth in Indonesia increases income returns, particularly for the poor, and thus reduces poverty through this mechanism [8]. Economic growth accompanied by an even distribution of income is the main factor in reducing poverty in Mexico [15].

**3. Poverty and Income Inequality:**
One of the central issues in development is the reduction of poverty while increasing income inequality. One cause

of poverty is an unequal distribution of resources, which can lead to income inequality. According to Kuznets, the poverty rate increased at the start of the development process. The number of poor people gradually decreases at the end of the development process, so growth and poverty have a very strong correlation. Kuznets also stated that income distribution tends to deteriorate during the early stages of economic growth. However, income distribution will improve in the future [25]. Correlation between income inequality and poverty as a pragmatic relationship, namely income inequality can cause poverty to get worse. In other words, income inequality is a form of poverty.

In the previous subsection (Relationship of Poverty to Economic Growth), it is known that economic growth contributes to poverty reduction. Therefore, it can be concluded that there is a negative correlation between growth and poverty. Economic growth is frequently linked to income inequality, with an increase in income inequality reducing the effectiveness of poverty alleviation. This demonstrates that income inequality and poverty have a trade-off.

The impact of income inequality on the poor is becoming increasingly concerning, with economic growth no longer solving the problem of poverty in rural China. Economic growth increases income inequality between poor and rich regions and has an impact on relatively high poverty. [31]
The poverty that occurs in Indonesia is caused by many interrelated factors (multidimensional), such as being influenced by education, population, investment, to infrastructure.

**4. Education:**
Education is essential to a fulfilling and worthwhile life [31]. This statement can be seen that the education obtained by a person will affect the quality of himself or his productivity. It will lead the individual to obtain a decent job with an appropriate income. A high level of education will make individuals obtain income from the results of education taken. The relationship between education and poverty levels will show an inverse comparison, the higher a person's education level will have an impact on increasing productivity so that they can get higher wages or income and will ultimately reduce the percentage of poor people [22].

**5. Population:**
The density of population and the number of population spikes in an area are often new development problems. Increased population growth, if it is not balanced with the availability of jobs, will have an impact on increasing unemployment. In long term, it will increase poverty and inequality. High population growth tends to slow down per capita income in three ways: (first) it increases the population's burden on land, (second) increases consumption of goods due to a lack of supporting factors to increase their supply, and (third) decreases capital accumulation, because by adding a family member, the cost increases [10]. Rapid population growth will tend to slow down efforts to increase economic growth and reduce poverty and income inequality [11].

**6. Infrastructure:**
World Bank categorizes infrastructure into three, namely: (1) Economic infrastructure, which is a physical infrastructure to support economic activities consisting of public utilities (electricity, telecommunications, water supply, sanitation, and gas pipelines), public work (roads, dams, canals, irrigation, and drainage), and the transportation sector (roads, railroads, ports, and airports); (2) social infrastructure, it consists of education, health, housing, and recreation; and (3) administrative infrastructure, it consists of law enforcement, administrative control, and coordination [31]. Infrastructure is a factor in determining competitiveness and productivity because the economic infrastructure will have a direct impact on economic growth and regional development, while social infrastructure has a direct impact on the quality of life and human capital. Thus, it will only affect production in the long term. The effect will not only impact the area where the social infrastructure is built [7].

**7. Investment:**
Investment based on its source in Indonesia is divided into two, namely foreign investment (FI) and domestic investment (DI). Investment is a factor that determines the rate of economic growth. In addition to encouraging an increase in output, the investment will also increase the demand for inputs, one of which is through labor. Hence, it will affect higher employment, where in the end the welfare of the community is achieved as a result of increased income received by the community. Investment is an indicator that has an impact on reducing poverty levels [1].

## III. METHODOLOGY

The type of data used in this research is panel data which is a combination of data from time series and cross-sections. The preparation of the panel data is in the form of cross-section data from all provinces in Indonesia which are classified into two regions.

The classification of the area consists of the West Indonesia Region (Aceh, North Sumatra, West Sumatra, Riau, Jambi, South Sumatra, Bengkulu, Lampung, Bangka Belitung Islands, Riau Islands, DKI Jakarta, West Java, Central Java, DIY Yogyakarta, East Java, Banten and Bali) and East Indonesia Region (West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, North Sulawesi, Central Sulawesi, South Sulawesi, Southeast

Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku, West Papua, and Papua). The annual cross section data series used is annual with the period 2012-2019.

The data used in this study consists of data on the number of poor people, regional economic growth, clean water capacity, the average length of schooling, Gini index, investment value from Foreign Investment (Penanaman Modal Asing/PMA) and Domestic Investment (Penanaman Modal Dalam Negeri/PMDN), population, the industry's share of GDP, life expectancy, and inflation. The data used in this study were sourced from BPS and BKPM.

**1. Granger Causality between Poverty, income inequality:**

The Granger causality test aims to measure the correlation between variables and analyze the direction of the causal relationship, so it can be concluded that it has several components X → Y (past value of X causes Y), Y → X (past value of Y causes X), or X Y (past values of X cause Y and past values of Y cause X). The criteria for determining causality are seen from the probability value compared to the critical value. The critical value used in this study is five % (5%) as the significance level of significance. If in one of the estimation results of the two variables the probability value is < 5 %, it can be interpreted that there is a causal relationship between the variables in the model.

Causality testing in this study measures the ability to predict values using previous values from other time series against current conditions, so the data used in this study is time series data. According to A common problem in economics is determining whether changes in one variable are the cause of changes in other variables Granger causality statistical test will be aimed at answering the formulation of the problem of dynamics and the relationship between economic growth and income inequality to poverty in KBI and KTI [9].

$$\mathbf{POVt} = \sum_{i=0}^{n} \propto iPOV_{t-i} + \sum_{i=0}^{n} \beta iGROWTH_{t-i} + {}_{t-i} + \mathbf{U1t}\ (1) \sum_{i=0}^{n} \gamma iGINI$$

$$\mathbf{GROWTHt} = \sum_{i=0}^{n} \propto iGROWTH_{t-i} + \sum_{i=0}^{n} \beta iPOV \sum_{i=0}^{n} \gamma iGINI {}_{t-i} + {}_{t-i} + \mathbf{U2t}\ (2)$$

$$\mathbf{GINIt} = \sum_{i=0}^{n} \propto iGINI_{t-i} + \sum_{i=0}^{n} \beta iPOV_{t-i} + {}_{t-i} + \mathbf{U3t}\ (3) \sum_{i=0}^{n} \gamma iGROWTH$$

POVt is the percentage of poverty in each region in year t, $GROWTH_T$ is the regional economic growth rate in each region in year t, and GINIt is the Gini index in each region in year t.

**2. Panel Data Analysis:**

Panel data analysis was used to analyze the factors that influence poverty in West Indonesia and East Indonesia. To obtain better analysis results, this research used an ordinary least squares (OLS) estimation technique with a static panel data approach. Panel data is a combination of cross-section data and time series data. Thus, the period used is not too long and the cross data can be in the form of characteristics of a company/region/country.

Econometric Model of West Indonesia

$$\ln POV_{it} = \beta_0 + \beta_1 \ln\_INVEST_{it} + \beta_2 \ln\_INDU_{it} + \beta_3 INCOME_{it} + \beta_4 EDUC_{it} + \beta_5 INFRA_{it} + \beta_6 \ln\_AHH_{it} + \beta_7 \ln\_PEND_{it} + \varepsilon_{it}$$

Econometric Model of East Indonesia

$$\ln POV_{it} = \beta_0 + \beta_1 \ln\_INVEST_{it} + \beta_2 \ln\_INDU_{it} + \beta_3 INCOME_{it} + \beta_4 EDUC_{it} + \beta_5 INFRA_{it} + \beta_6 \ln\_AHH_{it} + \beta_7 \ln\_PEND_{it} + \varepsilon_{it}$$

$POV_{it}$ is the number of poor people in province i and year t; $INVEST_{it}$ is the total realization of foreign investment and domestic investment in province i in year t; $INDU_{it}$ is the share of the industrial sector to GRDP in province i in year t; INCOMEit is gross regional domestic product per capita; EDUCit is the mean year of schooling in province i in year t; INFRAit is the clean water capacity in province i in year t; AHHit is the life expectancy in province i in year t; and PENDit is the total population in province i in year t.

## IV. RESULT AND DISCUSSION

**1. Granger Causality:**

The Granger causality test in this study is to examine the reciprocal relationship or causality between economic growth, and income inequality which is represented by the Gini index, and the poverty rate in KBI and KTI and is based on the assumption of stationarity to avoid spurious regression results. In this study, the data stationary test used the unit root test with the Augmented Dickey-Fuller Test (ADF Test) method.

The results of the stationarity test from the ADF test show that the poverty rate in KBI and KTI is stationary at the level indicated by the p-value less than the 5 percent real level. The variable of economic growth and the Gini index is not stationary at the level but is stationary at the level of the 2nd (second) difference. The results of the stationary test on the variables of economic growth and the Gini index of KTI are stationary at the level of 1st (first) difference.

Table 3 depicts a one-way or causal relationship between the percentage of the poverty rate and regional economic growth and the Gini index in KBI and KTI. According to the findings of the causality test, economic growth (GROWTH) affects poverty (POV) and has a two way causality relationship in the KBI and KTI areas. Two way causality is also shown in economic growth with the Gini index in East Indonesia. Meanwhile, in other indicators, income inequality as represented by the Gini index has a one-way influence on the percentage of the KBI poverty rate. In KBI, economic growth affects the Gini index only in one direction.

Table 3. Granger Causality Test Results.

| Null Hypothesis | West Region of Indonesia | East Region of Indonesia |
|---|---|---|
| | Probability | Probability |
| GROWTH does not Granger Cause POV | 0.001* | 0.008* |
| POV does not Granger Cause GROWTH | 0.008* | 0.000* |
| GINI does not Granger Cause POV | 0.000* | 0.904 |
| POV does not Granger Cause GINI | 0.164 | 0.173 |
| GROWTH does not Granger Cause GINI | 0.278 | 0.000* |
| GINI does not Granger Cause GROWTH | 0.000* | 0.000* |

Source: Stata 16 (Processed)
Notes: *Significant at a 5% significance level

**1.1 Result of Causality Test of Economic Growth and Poverty:**

The causality test results show that economic growth (GROWTH) has a two-way causality relationship with poverty in the KBI and KTI areas. This can be demonstrated by comparing the probability value of economic growth to the probability value of poverty, which is less than 0.05. A decrease or increase in economic growth will directly impact the poverty rate in KBI and KTI. The test also demonstrates that the poverty rate causes changes in economic growth, implying that the decrease or increase in the poverty rate is a result of economic growth performance.

Economic growth and poverty have a causal relationship. Policies to reduce poverty can create a good cycle to increase economic growth and at a certain time will also have an impact on reducing poverty [18]. The relationship between economic growth and poverty produces a basic framework of thought, namely the trickle-down effect of economic growth in the form of increased employment opportunities or reducing unemployment and increasing wages/income of the poor. Assuming that there is a necessary mechanism to facilitate trickle-down of the benefits of economic growth to the poor, then economic growth can become an effective tool for poverty reduction [25].

**1.2 Result of Causality Test of Income Inequality and Poverty:**

Based on the results of the causality test of income inequality with poverty in KTI, it can be seen that poverty does not affect income inequality and vice versa income inequality does not affect poverty. Thus, it can be concluded that there is no causal relationship between variables and there is no one-way relationship between the variables of poverty and income inequality in KTI.

Different results are obtained in KBI where income inequality affects the poverty level. This shows that better income equality in KBI will help people from the lower middle class continue to increase their income to get out of the poverty line, or vice versa, poor income inequality in KBI will make it difficult for the lower middle class or the poor. get out of the poverty line. High-income inequality will increase the poverty gap and has a positive relationship to increasing poverty. Based on these results, it can be concluded that poverty in the KBI area is caused by widening income inequality.

**1.3 Result of Causality Test of Economic Growth and Income Inequality:**

According to the findings of the causality test of economic growth and income inequality in Eastern Indonesia, there is a causal relationship where the estimation results show that economic growth affects income inequality and vice versa, income inequality affects economic growth. Waluyo (2004) stated that the level of economic growth that occurs in a few years affects the rising and falling levels of income inequality, while economic growth that is evenly distributed to all levels of society is often associated with declining income inequality. However, different results are shown in the KBI. Based on the estimation results, income inequality only affects economic growth (one-way direction). It will reduce people's purchasing power and hamper economic activity to produce output. Therefore, it will have an impact on economic growth in an area as well as a hamper.

**2. Static Panel Data:**

According to the findings of the causality test of economic growth and income inequality in East Indonesia, there is a causal relationship where the estimation results show that economic growth affects income inequality and vice versa, income inequality

affects economic growth. Waluyo (2004) stated that the level of economic growth that occurs in a few years affects the rising and falling levels of income inequality, while economic growth that is evenly distributed to all levels of society is often associated with declining income inequality. However, different results are shown in the KBI. Based on the estimation results, income inequality only affects economic growth (one-way direction). It will reduce people's purchasing power and hamper economic activity to produce output. Therefore, it will have an impact on economic growth in an area as well as a hamper.

The selection of the best model in estimating the factors that affected poverty in KBI and KTI was carried out through 3 (three) stage tests, namely the Chow Test, Hausmann Test, and Lagrange Multiplier Test. Based on the three stages of the test, it was decided that the selection of the best model to analyze the factors of poverty in East Indonesia and West Indonesia is the Random Effect GLS Regression. The following are the testing stages to obtain the best panel data regression model:

Table 4. Static Panel Data Estimation Results.

| Independent Variable | Dependent Variable: Number of poor people | | | |
|---|---|---|---|---|
| | West Indonesia | | EastIndonesia | |
| | P>\|z\| | Coef | P>\|z\| | Coef |
| Mean Years of School | 0.000* | -1.9000 | 0.065** | -0.2125 |
| Population | 0.000* | 0.9171 | 0.000* | 0.5270 |
| Clean Water | 0.807 | -0.0155 | 0.017* | -0.511 |
| GRDP Per capita | 0.004* | -0.2051 | 0.325 | 0.019 |
| Investment | 0.565 | 0.005 | 0.005* | 0.018 |
| Industry | 0.170 | -0.0216 | 0.376 | -0.010 |
| Life expectancy | 0.000* | 2.3712 | 0.021* | -5.853 |
| $R^2$ | 0.8774 | | 0.5815 | |
| Prob > $chi^2$ | 0.000 | | 0.000 | |

Source: Stata 16 (Processed)
Information: * Significant on a real level 5%
** Significant on a real level 10%

Based on the estimation results of static panel data regression as shown in Table 4, the variables of Mean year of school (EDUC), Population (PEND), regional economic growth per capita (INCOME), and Life Expectancy (AHH) had a significant effect on poverty in West Indonesia because the p-value was below 5% or 0.05 (significance level of significance). Different results were shown in East Indonesia (Table 4), that the variables that have a significant effect on poverty are Mean year of schooling (EDUC), Total population (EDUC), clean water capacity (INFRA), the realization of PMA/FI and PMDN/DI investments (INVEST), and life expectancy (*AHH*).

**1.1 The effect of education on poverty in West Indonesia and East Indonesia:**

The education aspect is represented through the variable of the average length of studying at school. It is defined as the number of years used by a person in undergoing formal education. Based on the results of static panel data regression (Table 4), shows that the average length of studying at school had a significant effect on poverty reduction in East Indonesia and West Indonesia. Todaro (2013) One of the most important human capital in development is formal education.

Increasing people's access to formal education implies that there will be greater opportunities for welfare. These results were in line with research conducted by Seran (2012), Mariyanti (2016), and Santz (2017). Formal education can improve the quality, and mastery of technology by individuals to be more productive. Productive individuals receive relatively higher incomes and will increase consumption power. The increase in consumption power indicates a strong purchasing power of the people so that it will have an impact on increasing the output of goods and services and have implications for opening up employment opportunities, economic growth, and reducing poverty [28] .

**1.2 The effect of population on poverty in West Indonesia and East Indonesia:**

The population aspect is represented through the population variable. It is defined as the number of residents living in a geographical area for 1 year or more or residents living for less than 1 year but to settle based on the 2020 Population Census. The results of static panel data regression (Table 4) show that an increase in population will increase the number of poor people in the West Region of Indonesia as well as the East Region of Indonesia and the West Region of Indonesia. The rapid and uncontrolled increase in population causes serious problems for economic development. Hence, if population growth is not balanced by support for equitable distribution of economic development, it will have implications for poverty.

**1.3 The effect of infrastructure on poverty in West Indonesia and East Indonesia:**

The infrastructure aspect represented through the capacity of clean water distributed to the population showed that

there was a significant relationship between clean water infrastructure and poverty levels in East Indonesia. It means that increasing the capacity of clean water distributed in the provinces of East Indonesia will reduce the level of poverty in the region. It can be believed that East Indonesia is an area that is still difficult and has minimal access to clean water for daily needs. The distribution of clean water will have an impact on the health of the poor. Furthermore, it has an impact on achieving physically healthy and strong individuals to always be productive in carrying out economic activities. Clean water infrastructure is a necessity for the poor [2]. Thus, the provision of clean water can reduce poverty.

**1.4 The effect of GRDP per capita on poverty in West Indonesia and East Indonesia:**

Based on the estimation results of statistical panel data regression (Table 4), it showed that there was a negative and significant effect between GRDP per capita and the poverty rate in West Indonesia. This shows that an increase in the amount of income per capita will reduce poverty in the West Region of Indonesia. An increase in per capita income can encourage an increase in the income of the lower middle class or the poor group[30]. An increase in population income will increase people's purchasing power and have an impact on improving people's welfare [29].

**1.5 The effect of investment on poverty in West Indonesia and East Indonesia:**

Static panel data regression results showed that foreign investment (FI) and domestic investment (DI) had a positive and significant effect on poverty in East Indonesia. This was not in line with previous research conducted by Zhang (2014), that investment is a very strong main source to encourage economic growth which ultimately reduces poverty levels. The results of the regression showed that investment in East Indonesia does not directly touch areas that have pockets of poverty in East Indonesia. This caused differences in the income growth of each region and potential sectors in KTI. The difference in the amount of investment in certain sectors will cause the income gap received in each sector and society to become unbalanced, thus having implications for an increase in the number of poor people in a region.

**1.6 The Effects of health on poverty in West Indonesia and East Indonesia:**

The health aspect is represented by life expectancy. Based on the results of the research, the relationship between life expectancy and poverty in KTI and KBI showed significance below the level of significance (5%), but with a different direction of influence. Life expectancy showed a negative relationship with poverty in East Indonesia. This showed that the higher the life expectancy, the lower the poverty rate in East Indonesia. The implication of health is people's productivity in carrying out economic activities. Hence, it will affect increasing the output produced. Different results were shown in the regression results in KBI; life expectancy had a positive effect on poverty in KBI. This can be correlated with a high dependency ratio or dependency ratio in KBI. Life expectancy causes a high number of re-dependence burdens because it will bear the population who is no longer productive [23]. A high dependency ratio not matched by the supply of jobs will have an impact on increasing poverty [24].

## V. CONCLUSION

Based on the estimation results through a static panel approach, the factors that affect poverty in West Indonesia and East Indonesia are different. The factors that affect poverty in West Indonesia are the Average Length of Studying at School, Population, regional economic growth per capita, and Life Expectancy. Different results are shown in East Indonesia. The variables that have a significant effect on poverty are the average length of Studying at School, population, clean water capacity, the realization of foreign and domestic investments, and life expectancy.

## REFERENCES

[1] Afandi, A., Wahyuni, D. and Sriyana, J. Policies to eliminate the poverty rate in Indonesia. International Journal of Economics and Financial Issues, 7(1), pp.435-441. 2017

[2] Ali I, Pernia EM. Infrastructure and Poverty Reduction: What is the Connection?. Economics and Research Department Policy Brief Series 13. Asian Development Bank. Manila. 2003.

[3] Baltagi, B.H. Econometric analysis of panel data (Vol. 4). Chichester: John Wiley & Sons. 2008.

[4] Bellinger WK. The Economics Analysis of Public Policy. Routledge: Oxon. 2007.

[5] Badan Perencanaan Pembangunan Nasional. Peraturan Presiden Nomor 18 Tahun 2020 tentang Rencana Pembangunan Jangka Menengah Nasional 2020-2024. Jakarta (ID): BAPPENAS.

[6] Badan Pusat Statistik. Penghitungan dan Analisis Kemiskinan Makro Indonesia Tahun 2020. Tersedia pada: https://www.bps.go.id/

[7] Capello, R. Regional Economics. New Yourk: Routledge Taylor and Francis Group. 2007.

[8] Fane G, Warr P. How Economic Growth Reduces Poverty: A General Equilibrium Analysis for Indonesia. Discussion Paper No. 2002/9. United Nations University/ WIDER. 2002.

[9] Juanda B. Ekonometrika pemodelan dan pendugaan. 2009.

[10] Jhingan, M.L. Ekonomi Pembangunan dan Perencanaan. Penerjemah: D. Guritno. Jakarta: PT Raja Grafindo Persada. 2003.

[11] Klasen S, Lawson D. The Impact of Population Growth on Economic Growth and Poverty Reduction. Leibniz Information Centre for Economics. 133: 1-21. 2007.
[12] Lee GHY, Parera H, Devangi L. Have Economic Growth and Institutional Quality Contributed to Poverty and Inequality Reduction in Asia?. Jurnal of Asian Economics.2 (7):71-86. 2013.
[13] Miranti, R. and Resosudarmo, B.P., Understanding regional poverty in Indonesia: is poverty worse in the east than in the west. Australasian Journal of Regional Studies, The, 11(2), pp.141-154. 2005.
[14] Mariyanti, T., & Mahfudz, A. A. Dynamic circular causation model in poverty alleviation: Empirical evidence from Indonesia. Humanomics, 32(3), 275-299. 2016.
[15] Montiel, Iniguez JA. Growth with Equity for the Development of Mexico: Poverty, Inequality and Economic Growth (1992-2008). World Development. 5(9):313-326. 2014.
[16] Muthalib, A.A., The influence of fuel prices and the unemployment rate on the poverty level in Indonesia. 2018.
[17] Nyasha S, Gwenhure S, Odhiambo N. Poverty and Economic Growth in Ethopia: a multivariate causal linkage. The Journal of Developing Areas. 51(1). 343-359. 2017.
[18] Perera, Liyanage Devangi H., and Grace HY Lee. "Have economic growth and institutional quality contributed to poverty and inequality reduction in Asia?." Journal of Asian Economics 27 71-86. 2017.
[19] Perry GE, Arias OS, Lopez JH, Maloney WF, Serven L.. Poverty Reduction and Growth: Virtuous and Vicious Circles. New York: World Bank. 2006.
[20] Priyarsono, Sahara dan M. Firdaus. Ekonomi Regional. Jakarta (ID): Universitas Terbuka 2007.
[21] Rizal RN. Peran Pendidikan Terhadap Pengurangan Kemiskinan di Indonesia. [Thesis]. Bogor: Institut Pertanian Bogor. 2012.
[22] Rochaida, E. Capaian dan determinan bonus demografi di Kalimantan timur. In Prosiding SNMEB (Seminar Nasional Manajemen dan Ekonomi Bisnis). 2018, March.
[23] Rohana, R., Junaidi, J., & Prihanto, P. H. Analisis Pengaruh Pertumbuhan Penduduk dan Rasio Ketergantungan Terhadap Kemiskinan di Kabupaten Sarolangun. E-Jurnal Ekonomi Sumberdaya Dan Lingkungan, 6(2), 69-79. 2017.
[24] Todaro MP Dan Smith SC. Pembangunan Ekonomi. Edisi Kesembilan. Jakarta: Erlangga. 2006.
[25] Sanz, R., Peris, J. A., & Escámez, J. Higher education in the fight against poverty from the capabilities approaches the case of Spain. Journal of Innovation & Knowledge, 2(2), 53-66. 2017.
[26] Siregar, H. and Wahyuniarti, D.,. Dampak pertumbuhan ekonomi terhadap penurunan jumlah penduduk miskin. Economics Development, pp.1-28. 2007.
[27] Seran S. Determinan Faktor Sosial dan Ekonomi Terhadap Kemiskinan Penduduk. Jurnal Ekonomi Pembangunan. 13(1):62-78. 2012.
[28] Sukirno. Ekonomi Pembangunan: Proses Masalah dan Dasar Kebijakan. Kencana Jakarta. 2006.
[29] Weiss, J., & Jalilian, H. Industrialization in an age of globalization: some comparisons between East and South East Asia and Latin America. Oxford Development Studies, 32(2), 283-307. 2004.
[30] World Bank. World Development Report: Infrastructure for Development. Oxford University Press, New York. 1994. Zhang HK. Does International Investment Help Poverty Reduction in China?. The Chinese Economy. 39(3):79-90. 2006.
[31] Zhang, Q. and Chen, R. Financial development and income inequality in China: An application of SVAR approach. Procedia Computer Science, 55, pp.774-781. 2015