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Determinants of poverty and income inequality on the islands of Sumatra and Java

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ABSTRACT

Poverty and inequality are the main problems faced by a country including Indonesia. The purpose of this study was to determine and analyze the comparison of poverty and inequality levels on the islands of Sumatra and Java and to analyze the effect of the human development index (HDI), gross regional domestic product (GRDP), the level of open unemployment (TPT) and total population on poverty and income distribution inequality in Sumatra and Java. The research method used is quantitative descriptive with multiple regression analysis using panel data with provincial research objects on the islands of Sumatra and Java. Based on the results of the study, if you look at the comparison of the poverty rate on the island of Sumatra and Java, based on the data, it can be seen that the average poverty rate on the island of Sumatra is 10.6%, which is higher than the average poverty rate on the island of Java, which is 8.8%. while the level of inequality in income distribution on average in Sumatra is 0.327, lower than the average income distribution inequality in Java, which is 0.393. The regression results show that on the island of Sumatra the HDI variable has a significant negative effect on poverty and inequality, GRDP has a significant negative effect on poverty and poverty has a positive effect on inequality. TPT has a significant positive effect on poverty and not significant on inequality. Total population is not significant to poverty and inequality. While the regression results on the island of Java show that the HDI variable has a significant negative effect on poverty and not significant on inequality. GRDP has no significant effect on poverty and inequality. TPT has a significant positive effect on poverty and not significant on inequality. And population has no significant effect on poverty and inequality.



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Introduction

Java Island and Sumatra Island are islands in Indonesia which are located in the western part and with a higher population level when compared to other islands in Central and East Indonesia. Since the old order era until the current era, the center of Indonesian government is still on the island of Java, which is in the province of DKI Jakarta, as the center of government, development on the island of Java is very advanced and faster than other islands, including when compared to the island of Sumatra. With the emergence of industrial centers on the island of Java, many are attracted to work there, while the large population with high density creates a very tight level of competition among fellow job seekers. On the one hand, industrial development and development on the island of Java is faster than the island of Sumatra, but on the other hand the number and population density on the island of Java is higher than the island of Sumatra, this raises various problems, among others, if on the island of Sumatra the development is not as advanced as on the island of Java, but the number of The population is less so that the limited number of industry and business and trade centers as well as infrastructure development when compared to the island of Java causes limited population to obtain jobs and an equitable livelihood so that the poverty rate on the island of Sumatra when compared is the DKI Jakarta Province which is the lowest.

Located on the island of Java in 2016 and 2017, according to BPS, the poverty rate in Jakarta was only 3.75% and 3.78%, while compared to the Province with the highest poverty rate, Aceh Province with a poverty rate of 16.43% and 15, 9 2% in addition to poverty, another problem is the occurrence of social disparities between people with high incomes and people with low incomes or what is commonly called income distribution inequality and what is interesting is that when compared between the island of Sumatra and the island of Java, the province on the island of Sumatra turns out to be lower inequality when compared to Java Island based on BPS data in 2017 it turns out that there are 3 provinces on the island of Java that have a Gini index number which is a measure of inequality that is above 0.4, namely DKI Jakarta 0.409, Yogyakarta Province which is 0.44 and East Java Province 0.415 while on the island of Sumatra the average The province's average Gini index number is below 0.4. If you look at the factors that influence it or the determinants of these two problems, they tend to have similarities, including human resources, as reflected in the human development index (HDI) and population, natural resources indicators, and Product Gross Domestic Product (GDP).

In the neo-liberal view in seeing poverty the main focus is the free market (Syahyuti, 2006) so poverty is an individual problem, market power is the key in solving poverty, one of the understandings referred to by the World Bank (1990) and Chambers (1987) (in Mikkelsen, 2003:193). Several opinions regarding poverty, including the World Bank (1990) and Chambers (1987) (in Mikkelsen, 2003:193) view poverty as a condition of the weak ability of the community to meet their basic needs as measured by certain indicators and when compared to other countries, the relative relationship between rich and Poor country. Usman (2003:33) states that poverty is a state of deprivation of the ability to meet primary or basic needs and in life it is not enough. While the concept of poverty, according to Sumodiningrat (1999) has many dimensions, not only economic but other aspects such as social and political. According to Kartasasmita (1996:240-241), poor conditions can be caused by several things, namely: low level of education, poor education.

The low level of the human resources of the workforce is also low in ability Central Bureau of Statistics Kutznet Theory (the curve is like an inverted U) The Kuznets hypothesis was obtained based on his research from economic data during 1970 – 1980, especially in developing countries such as Indonesia, a phenomenon that appears to increase national income or gross domestic product and per capita income there is a positive relationship in the short term increase in income and inequality and it turns out that research conducted in Western European countries, shows that a growing economy actually causes the gap between the rich and the poor to widen. Jantti (1997) in Tambunan (2003) states that this phenomenon arises because of a change in the supply of labor (the entry of cheap labor from Turkey, or Eastern European countries into the labor market in Western Europe). This framework of thought underlies the Kuznets hypothesis. That is, in the short term there is a positive correlation between per capita income growth and income inequality. But in the long term the relationship between the two becomes a negative correlation. This means that in a short period of time (short run) an increase in income will be followed by a decrease in income inequality.

This phenomenon is known as the "inverted U-curve of the Kuznets hypothesis". To measure inequality there are several approaches used and the most common is to use the Gini index or Gini ratio which can be calculated using the Lorenz curve approach, the Gini coefficient value is in the range of 0-1 with the criteria that if it is at zero (0) then there is equality. perfect, while if the number is above zero but below 0.4 then the inequality condition is still low, if it is in the range of 0.4-0.5 then the inequality is moderate, while if it is above 0.5 and below 1 then the inequality is high, and if the value is equal to 1 then there is a perfect inequality. Several previous studies such as Alfarabi et al. (2014) found that the determinants that can reduce poverty are determined by the industrial sector with the object of research in Jambi province, this study uses the poverty variable and share output in GRDP. Nopriansyah et al. (2015) found that the determinants of poverty were the type of residence in a village or city, level of education and occupation, the object of the research was poor households in Jambi province using a certain sample. Aminah (2017) found that private investment has a significant and positive impact on

1535 Zwane (2018) found that

poverty with the object of research being poverty in Jambi province Biyase & Zwane (2018) found that gender, dependency ratio and education level determine the level of welfare, the object of the research is households in South Africa using certain samples and criteria. Wijayanto (2010) found that the level of education as a determinant that can reduce the level of poverty, the object of research is the districts and cities in the province of Central Java. Yudha (2013) found the unemployment rate and minimum wage had a significant positive effect while economic growth had a significant negative effect with the object of research being Indonesia. Nugroho (2013) found that unemployment is a determinant that can increase poverty while the level of education is a determinant that can reduce poverty, the object of research is the city of Yogyakarta.

Farikhatun (2018) found that the GRDP and unemployment variables have a significant effect on inequality, this study takes the object of all provinces on the island of Java. Hariani (2019) found that the determining factor of inequality is the human development index with the object of research being districts and cities throughout the province of East Java. Maloma (2016) found that the variables of education and occupation were the determinants of the poverty level with the object of research being the South African country. Murtisari (2015) found that the income of corn plant farmers had inequality, which was the object of the research in the district of Bone Bolango. The difference between inequality and poverty on the islands of Sumatra and Java from the initial data description shows that there are differences in theory and facts. Where initial data shows areas with high inequality are not necessarily high poverty and vice versa. Sumatra has higher poverty but lower income inequality, compared to Java. this is very interesting to study to dig deeper into the variables that determine poverty and inequality such as HDI GDP and the unemployment rate and population

Method

This study uses secondary data sourced from the Indonesian Statistics Center with the object of research being provinces on the islands of Sumatra and Java, with a research period starting from 2015 to 2020. The method used in this study is descriptive quantitative using panel data multiple regression analysis.

To answer the first problem, descriptive analysis was used by presenting the data and describing it simply using the average and comparing each data and explaining it in detail. secondly, the panel data model multiple regression is used with the following equation:

| $Y1it = \beta 0 +$ | - β1.IPMit + | β2.PDRBit + | β3.JPit + | β4.TPTit + | +ε(| 1) |
|--------------------|---------------------|--------------------|-----------|------------|-----|-----|
| $Y2it = \beta 0 -$ | + β 1.IPMit + | β 2.PDRBit + | β3.JPit + | β4.TPTit+ | ε | (2) |
| $Z1it = \beta 0 +$ | β 1.IPMit + | β 2.PDRBit + | 33.JPit + | β4.TPTit + | +ε(| (3) |
| $Z2it = \beta 0 +$ | $-\beta$ 1.IPMit + | β2.PDRBit + | B3.JPit + | β4.TPTit+ | ε | 4) |

Where :

| | • |
|---------|---|
| Y1 | = Poverty Rate in Java |
| Z1 | = Level of Income Distribution Inequality in Java |
| Y2 | = Poverty Rate in Sumatera |
| Z2 | = Level of Income Distribution Inequality in Sumatera |
| IPM | = Human Development Index |
| PDRB | = Gross Regional Domestic Product |
| JP | = Total Population |
| TPT | = Open Unemployment Rate |
| i | = Cross section (provinces on the island of Sumatra and |
| Java) t | = 2015 - 2020 |
| β0 | = Constant |
| β1 | = Regression Coefficient of Human Development Index |
| β2 | = Regression Coefficient of GRDP |
| β3 | = Regression Coefficient of Total Population |
| β4 | = Regression Coefficient of Open Unemployment Rate |
| 3 | = Error term |

Results and Discussions

Regression results of HDI, GRDP, TPT and population to poverty on the island of Sumatra

Chou test to find out whether the common effect or Fixed effect model is the best. Chou test results can be seen in the following table.

| Redundant Fixed Effects Tests Pool: POOL | | |
|---|------------------|--------|
| Test cross-section fixed effects | | |
| Effects Test | Statistics df | Prob. |
| | | |
| Cross-section F | 566.742422(9.46) | 0.0000 |
| Cross-section | 283.0479659 | 0.0000 |
| Chi-square | | |
| Source: Eviews 9.0 | | |

Table 1. Chou Test Results of Poverty on the Island of Sumatra

Based on the results of the Chou test, the probability value is significant or smaller than alpha 1%, so that the model chosen is fixed effect, not common effect. Hausman test to find out whether the Fixed effect or Random effect model is the best. The results of the Hausman test can be seen in the following table

| Table 2. | Hausman | Test | Results | of F | o verty | on | the | Island | of Sumatr | а |
|----------|---------|------|---------|------|----------------|----|-----|--------|-----------|---|
|----------|---------|------|---------|------|----------------|----|-----|--------|-----------|---|

| Correlated Random Effects - Hausman Test Pool: POOL | | | | | | | |
|--|--------------------|------------|--------|--|--|--|--|
| Test cross-section random effects | | | | | | | |
| Test Summary | Chi-Sq. Statistics | Chi-Sq. df | Prob. | | | | |
| Random cross-section | 1.706122 | 4 | 0.7896 | | | | |

Source: Eviews 9.0

Based on the results of the Hausman test, the probability value of 0.78 is not significant or greater than alpha 1% so that the selected model is random effect, not fixed effect. Based on the test results, the best selected model is t random effect model, which can be seen in the following table.

Table3.Random Effect Model of Poverty on the Island of Sumatera

| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|------------------------|-------------|------------|--------------|--------|
| С | 33,81035 | 5.395368 | 6.266551 | 0.0000 |
| HDI? | -0.357107 | 0.077627 | -4.600292 | 0.0000 |
| TPT? | 0.154294 | 0.053238 | 2.898170 | 0.0054 |
| GDP? | -1.17E-05 | 5.83E-06 | -2.010755 | 0.0493 |
| JP? | 0.000564 | 0.000423 | 1.333119 | 0.1880 |
| Random Effects (Cross) | | | | |
| _ACEH—C | 4.818221 | | | |
| _SUMUT—C | -2.244946 | | | |
| _SUMBAR—C | -3.725778 | | | |
| _RIAU—C | 0.199577 | | | |
| _JAMBI—C | -1.586472 | | | |
| _SUMSEL—C | 1.889614 | | | |
| _BENGKULU—C | 5.974998 | | | |
| _LAMPUNG—C | 0.983081 | | | |
| _BABEL—C | -4.654523 | | | |
| _KEPRI—C | -1.653771 | | | |

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| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|-----------------------|-------------|-------------------|--------------|----------|
| Effects Specification | | | | |
| | | SD | | Rho |
| Random cross-section | | 4.046904 | | 0.9929 |
| Idiosyncratic random | | 0.343287 | | 0.0071 |
| Weighted Statistics | | | | |
| R-squared | 0.674798 | Mean dependent | | 0.348330 |
| - | | var | | |
| Adjusted R-squared | 0.651147 | SD dependent var | | 0.568965 |
| SE of regression | 0.336052 | Sum squared resid | | 6.211217 |
| F-statistics | 28.53137 | Durbin-Watson | | 1.498022 |
| | | stat | | |
| Prob(F-statistic) | 0.000000 | | | |
| Source: Eviews 9.0 | | | | |

Regression results of HDI, GRDP, TPT and population oninequality on the island of Sumatra

Chou test to find out which one of the common effect or Fixed effect model is the best. Chou test resulta can be seen in the following table:

| Redundant Fixed Effects Tests | | | | | | |
|----------------------------------|------------|--------|--------|--|--|--|
| Pool: POOL | | | | | | |
| Test cross-section fixed effects | | | | | | |
| Effects Test | Statistics | df | Prob. | | | |
| Cross-section F | 39.194743 | (9.46) | 0.0000 | | | |
| Cross-section 0.0000 | | | | | | |
| Chi-square | 129.382000 | 9 | 0.0000 | | | |
| Source: Eviews 9.0 | | | | | | |

| Table 4. Chou Test Results of Inequalityon the Island of Sumatra |
|--|
|--|

Based on the results of the Chou test, the probability value is significant or smaller than alpha 1%, so that the model chosen is a fixed effect, not a common effect. Hausman test to find out whether the Fixed effect or Random effect model is the best. The results of the Hausman test can be seen in the following table:

Table 5. Hausman Test Results of Inequalityon the Island of Sumatra

| Correlated Random Effects - Hausman Test Pool: POOL Test cross section random effects | | | | | | | |
|---|--------------------|------------|--------|--|--|--|--|
| Test Summary | Chi-Sq. Statistics | Chi-Sq. df | Prob. | | | | |
| Random cross-section | 3.057880 | 4 | 0.5482 | | | | |

Source: Eviews 9.0

Based on the results of the Hausman test, the probability value of 0.548 is not significant or greater than alpha 1% so that the selected model is a random effect, not a fixed effect. Based on the test results, the best selected model is the random effect model, which can be seen in the following table:

| Coefficient | Std Emmon | t Statistica | Droh |
|-------------|--|--|--|
| Coefficient | Sta. Error | t-Statistics | FIOD. |
| 1.097385 | 0.118007 | 9.299342 | 0.0000 |
| -0.010809 | 0.001665 | -6.491900 | 0.0000 |
| -0.000943 | 0.001350 | -0.698408 | 0.4879 |
| 1.81E-07 | 9.38E-08 | 1.931106 | 0.0586 |
| -6.76E-06 | 4.15E-06 | -1.628727 | 0.1091 |
| | | | |
| 0.015675 | | | |
| -0.000292 | | | |
| -0.002937 | | | |
| -0.014153 | | | |
| | Coefficient 1.097385 -0.010809 -0.000943 1.81E-07 -6.76E-06 0.015675 -0.000292 -0.002937 -0.014153 | Coefficient Std. Error 1.097385 0.118007 -0.010809 0.001665 -0.000943 0.001350 1.81E-07 9.38E-08 -6.76E-06 4.15E-06 0.015675 -0.000292 -0.002937 -0.014153 | Coefficient Std. Error t-Statistics 1.097385 0.118007 9.299342 -0.010809 0.001665 -6.491900 -0.000943 0.001350 -0.698408 1.81E-07 9.38E-08 1.931106 -6.76E-06 4.15E-06 -1.628727 0.015675 -0.000292 -0.002937 -0.014153 -0.014153 -0.012 |

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|------|--|
|------|--|

| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|-----------------------|-------------|-------------------|--------------|----------|
| JAMBIC | -0.001987 | | | |
| SUMSELC | 0.003495 | | | |
| BENGKULUC | 0.016702 | | | |
| LAMPUNGC | -0.000170 | | | |
| BABELC | -0.060082 | | | |
| KEPRIC | 0.043749 | | | |
| Effects Specification | | | | |
| | | | SD | Rho |
| Random cross-section | | | 0.029198 | 0.9140 |
| Idiosyncratic random | | | 0.008956 | 0.0860 |
| Weighted Statistics | | | | |
| R-squared | 0.486018 | Mean dependent | | 0.040674 |
| - | | var | | |
| Adjusted R-squared | 0.448638 | SD dependent var | | 0.011957 |
| SE of regression | 0.008879 | Sum squared resid | 1 | 0.004336 |
| F-statistics | 13.00193 | Durbin-Watson | | 2.018762 |
| | | stat | | |
| Prob(F-statistic) | 0.000000 | | | |
| Source: Eviews 9.0 | | | | |

Regression results of HDI, GRDP, TPT and population to poverty on the island of Java

Chou test to find out which one of the common effect or Fixed effect model is the best. Chou test result can be seen in the following table

| Redundant Fixed Effects Tests | | | |
|----------------------------------|------------|--------|--------|
| Pool: PANEL | | | |
| Test cross-section fixed effects | | | |
| Effects Test | Statistics | df | Prob. |
| Cross-section F | 58.376373 | (5.26) | 0.0000 |
| Cross-section Chi-square | 90.128998 | 5 | 0.0000 |
| | | | |

Source: Eviews 9.0

Based on the results of the Chou test, the probability value is significant or smaller than alpha 1%, so that the model chosen is fixed effect, not common effect. Hausman test to find out whether the Fixed effect or Random effect model is the best. The results of the Hausman test can be seen in the following table:

| Table 8. | Hausman | Test | Results | of Poverty | on v | the | Island | of J | ava |
|----------|---------|------|---------|------------|------|-----|--------|------|-----|
|----------|---------|------|---------|------------|------|-----|--------|------|-----|

| Redundant Fixed Effects Tests | | | |
|----------------------------------|------------|--------|--------|
| Pool: PANEL | | | |
| Test cross-section fixed effects | | | |
| Effects Test | Statistics | df | Prob. |
| Cross-section F | 58.376373 | (5.26) | 0.0000 |
| Cross-section Chi-square | 90.128998 | 5 | 0.0000 |
| Source: Eviews 9.0 | | | |

Based on the results of the Hausman test, the probability value of 0.000 is significant or less than 1% alpha, so that the model chosen is fixed effect, not random effect. Based on the test results, the best selected model is thefixed effect model, which can be seen in the following table.

| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|----------|-------------|------------|--------------|--------|
| С | 44.46694 | 11.44899 | 3.883917 | 0.0006 |
| JP? | -0.000244 | 0.000331 | -0.737559 | 0.4674 |
| HDI? | -0.432232 | 0.209135 | -2.066758 | 0.0488 |
| GDP? | -2.01E-07 | 1.72E-06 | -0.116917 | 0.9078 |
| TPT? | 0.408032 | 0.083970 | 4.859245 | 0.0000 |

Table 9. Fixed Effect Model of Poverty on the Island of Java

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| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|----------------------------|-------------|-----------------------|--------------|----------|
| Fixed Effects (Cross) | | | | |
| _DKIC | -6.136716 | | | |
| _BANTENC | -8.521276 | | | |
| _JABARC | 2.791310 | | | |
| _CENTRAL JAVAC | 4.731099 | | | |
| _YOGC | 1.691072 | | | |
| _JATIMC | 5.444510 | | | |
| Effects Specification | | | | |
| Cross-section fixed (dummy | variables) | | | |
| R-squared | 0.984324 | Mean dependent | | 8.884722 |
| | | var | | |
| Adjusted R-squared | 0.978898 | SD dependent var | | 3.441879 |
| SE of regression | 0.499990 | Akaike info criterion | | 1.681676 |
| Sum squared resid | 6.499738 | Schwarz criterion | | 2.121542 |
| Likelihood logs | -20.27016 | Hannan-Quinn Crit | er. | 1.835201 |
| F-statistics | 181.3979 | Durbin-Watson | | 1.200677 |
| | | stat | | |
| Prob(F-statistic) | 0.000000 | | | |

Source: Eviews 9.0

Regression results of HDI, GRDP, TPT and population oninequality on the island of Java

Chou test to find out which one of the common effect or Fixed effect model is the best. Chou test result can be seen in the following table 10.

Table 10. Chou Test Results of Inequalityon the Island of Java

| Redundant Fixed Effects Tests | | | |
|----------------------------------|------------|--------|--------|
| Pool: PANEL | | | |
| Test cross-section fixed effects | | | |
| Effects Test | Statistics | df | Prob. |
| Cross-section F | 18.421574 | (5.26) | 0.0000 |
| Cross-section Chi-square | 54.486066 | 5 | 0.0000 |
| Source: Eviews 9.0 | | | |

Source: Eviews 9.0

Based on the results of the Chou test, the probability value is significant or smaller than alpha 1%, so that the model chosen is fixed effect, not common effect. Hausman test to find out whether the Fixed effect or Random effect model is the best. The results of the Hausman test can be seen in the following table.

| Correlated Random Effects - Hausman Test | | | |
|--|--------------------|------------|--------|
| Pool: PANEL | | | |
| Test cross-section random effects | | | |
| Test Summary | Chi-Sq. Statistics | Chi-Sq. df | Prob. |
| Random cross-section | 12.643281 | 4 | 0.0132 |
| Source: Eviews 9.0 | | | |

Based on the results of the Hausman test, the probability value of 0.0132 is not significant or greater than alpha 1% so that the selected model is fixed effect. Based on the test results, the best selected model is the fixed effect model, which can be seen in the following table.

| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|----------|-------------|------------|--------------|--------|
| С | 0.629439 | 0.240342 | 2.618932 | 0.0145 |
| JP? | -2.63E-06 | 6.95E-06 | -0.378266 | 0.7083 |
| HDI? | -0.001435 | 0.004390 | -0.326821 | 0.7464 |

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| Variable | Coefficient | Std. Error | t-Statistics | Prob. |
|----------------------------|-------------|----------------------|--------------|-----------|
| GDP? | -7.57E-08 | 3.60E-08 | -2.099513 | 0.0456 |
| TPT? | 0.001535 | 0.001763 | 0.871034 | 0.3917 |
| Fixed Effects (Cross) | | | | |
| _DKIC | 0.028998 | | | |
| _BANTENC | -0.101470 | | | |
| _JABARC | 0.092616 | | | |
| _CENTRAL JAVAC | -0.013710 | | | |
| _YOGC | -0.075490 | | | |
| _JATIMC | 0.069056 | | | |
| Effects Specification | | | | |
| Cross-section fixed (dummy | variables) | | | |
| R-squared | 0.869120 | Mean dependent | | 0.393028 |
| | | var | | |
| Adjusted R-squared | 0.823815 | SD dependent var | | 0.025006 |
| SE of regression | 0.010496 | Akaike info | | -6.045515 |
| | | criterion | | |
| Sum squared resid | 0.002864 | Schwarz criterion | | -5.605648 |
| Likelihood logs | 118.8193 | Hannan-Quinn Criter. | | -5.891989 |
| F-statistics | 19.18389 | Durbin-Watson | | 2.009268 |
| | | stat | | |
| Prob(F-statistic) | 0.000000 | | | |

Source: Eviews 9.0

Implications of research results

If you look at the comparison of the poverty rate on the island of Sumatra and Java, based on the data, it can be seen that the average poverty rate on the island of Sumatra is 10.6%, which is higher than the average poverty rate on the island of Java, which is 8.8%, while the level of inequality The average income distribution of Sumatra Island is 0.327, which is lower than the average income distribution inequality in Java, which is 0.393. Based on these results, it can be explained that on average, Sumatra Island has a higher poverty rate when compared to Java Island. This reflects that on the island of Sumatra, development has not been maximized in reaching all corners of the region if you look at the island of Java, which is the capital city of the country, where the facilities are very complete and the development is evenly distributed so that the poverty rate is among the lowest.

Meanwhile, when viewed from a comparison of income distribution inequality, it turns out that the average level of inequality on the island of Java is higher than the average level of inequality on the island of Sumatra. There are so many industrial centers and companies and infrastructure, so there is a lot of difference in income between the working population, even high-income jobs in Indonesia are found on the island of Java, including low-income jobs, resulting in higher income inequality when compared to economic conditions in Indonesia. The island of Sumatra, which is relatively more evenly distributed between the incomes of the population between provinces, economic activity is also relatively low when compared to economic activity on the island of Java, where there are more jobs available with different amounts of income, while on the island of Sumatra, there are more jobs available.

The difference between each province is also not too much of a difference when viewed from the number of residents and the structure of their economic conditions. When viewed from the results of quantitative analysis on the poverty model on the island of Sumatra and Java, the HDI variable has the same negative effect, which is a significant negative on the poverty level on the island of Sumatra and Java, theoretically this is very appropriate because HDI is calculated from indicators of education, health and purchasing power then if there is an increase in HDI indicates an improvement in terms of human resources so that if the HDI increases then the poverty rate will decrease, the increase in HDI reflects an increase in the quality of human beings from education, health and the economy so that this will have an impact on the decline in poverty levels.

Previous studies or empirical studies have shown that as in (Biyase & Zwane, 2017) found that gender, dependency ratio and education level determine the level of welfare. Maloma (2016) found that the variables of education and employment were the determinants of the poverty level with the object of research being the South African country. Garza-Rodriguez (2015) also found that the education level

of the head of the household which is a determinant of poverty, Zuhdiyaty & Kaluge (2018) found that the HDI variable is a variable that affects the level of poverty. Meanwhile, when viewed from the GRDP variable in the case of Sumatra Island, GRDP has a significant negative effect on poverty, while in the case of Java, it does not have a significant effect, this shows that on the island of Sumatra, the increase in GRDP is closely related to increasing the welfare of the population, including the poor, by depending on jobs in the agricultural sector while in On the island of Java, this is not significant in influencing the income of the poor, in line with another study Giovanni (2018) also found that the results of GRDP have a significant effect on poverty, on the other variable, TPT has the same effect on both Sumatra and Java, which are both have a positive effect. significant impact on the level of poverty, this is very much in accordance with the theory that if unemployment is a condition that creates a weakness in purchasing power and inability because unemployment causes no income so as to meet the minimum living needs of the population.

However, other studies such as Zuhdiyaty & Kaluge (2018) found that the open unemployment rate was not significant in influencing poverty, while Hyder & Sadiq (2010) found that employment status was a determinant of poverty levels. Meanwhile, the population variable also shows the same result, which has no significant effect on poverty both on the island of Sumatra and Java. While the income distribution inequality model shows that the HDI variable has a significant negative effect on inequality, this shows that on the island of Sumatra, changes in the HDI increase can reduce the level of inequality, meaning that an increase in human resources is significant in reducing inequality. Temporary inequality in Java Island is not significant in determining inequality, but the TPT variable shows the same results in Sumatra Island and Java Island. TPT does not have a significant effect in the case of the island of Sumatra, the effect is significantly positive, while in the case of the island of Java, the GRDP variable has a different effect in the case of the island of Sumatra, the effect is significantly positive, while in the case of the island of Java, the results have a significant negative effect on inequality. Hariani (2019) found that only HDI variable determines inequality while TPT is not significant in determining inequality. Guiga & Rejeb (2012) found a relationship between economic growth and inequality according to Kuznet's hypothesis.

Conclusions

Based on the research objectives, the conclusions of this study are as follows: First, if you see poverty comparison on the island of Sumatra and Java islands on the basis of the data shows that the average poverty on the island of Sumatra 10, 6% were higher when compared with the average level of poverty in the island of Java that is 8.8%, while The average level of income distribution inequality in Sumatra is 0.327, which is lower than the average income distribution inequality in Java, which is 0.393. Second, HDI and GRDP have a significant negative effect and TPT has a significant positive effect on the poverty level on the island of Sumatra while the population has no significant effect, while on the island of Java the HDI variable has a significant negative effect. For income distribution inequality on the island of Sumatra, the HDI variable has a significant negative effect. For income distribution inequality on the island of Sumatra, the GRDP is not significant effect, while on the island of Java, only the GRDP variable has a significant negative effect on inequality, while the other variables, namely HDI, population and TPT, have no significant to inequality on the island of Java.

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