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Research Article

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Analysis of the Determinants of Provincial Income Inequality in Indonesia

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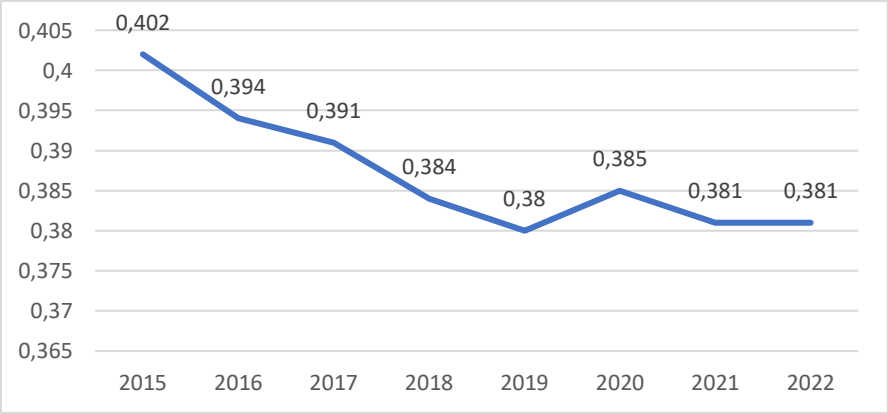
Abstract: *This research aims to analyze the influence of economic growth, the contribution of the agricultural sector, the contribution of the industrial sector, and the level of open unemployment on income inequality in all provinces in Indonesia. The method and analytical tools used in this research are panel data regression. The dependent variable used is the Gini index for all provinces in Indonesia and the independent variables include economic growth, agricultural sector contribution, industrial sector contribution and open unemployment rate. The best model obtained is the Fixed Effect Model. The research results show that economic growth, the contribution of the agricultural sector has a positive and significant effect on income inequality in all provinces in Indonesia, while the contribution of the industrial sector and the open unemployment rate do not have a significant effect on income inequality in all provinces in Indonesia.*

Keywords: *economic growth, contribution of the agricultural sector, contribution of the industrial sector, open unemployment rate.*

Introduction

Economic growth is a quantitative measurement that describes the economic development of a region in a certain year period compared to the previous year period(Sukirno, 2011). The economy can be said to have improved when economic activity has increased compared to what was achieved in the previous year. Sustainable development goals (SDGs) are one of the important points for reducing the level of inequality within and between countries.

Figure 1. Indonesian Gini Index 2015-2022



Source: BPS Indonesia, 2024 (processed)

Figure 1 shows the movement of the Indonesian Gini Index over the last 8 years (2015-2022) obtained from BPS using Urban and Rural Gini Index data in semester 2, namely September of each year. Indonesia is one of the developing countries that can be said to have succeeded in alleviating inequality in income

distribution before the Covid-19 pandemic occurred. Starting in 2015 at 0.402 and ending in 2019 at 0.380, the Indonesian Gini Index gradually decreased compared to the previous year when the Covid-19 outbreak occurred. However, the Gini index increased again in 2020 to 0.385—a value that even exceeded 2018—and then increased to 0.381 in 2021. The following is the average of Indonesia's Gini index over the previous ten years broken down by province.

Two main problems that often arise in developing countries are income inequality, or the economic gap between high and low income groups, and poverty rates, or the number of people living below the poverty line.(Putri & Erita, 2019). Inequality occurs because of differences in natural resources and differences in other production factors between regions. This difference in resources will be a problem that arises between regions that have resources and those that don't, so that the rate of income inequality between these regions will increase.(Kuncoro, 2011).

Income inequality cannot be separated from economic growth as stated by(Todaro, 2008)that, increasing economic growth will increase income inequality and vice versa. According to the same results(Rubin & Segal, 2015)which found the results that increasing economic growth will increase income inequality in a region. This means that higher economic growth will lead to higher income inequality. Vice versa, a decrease in economic growth will have an impact on reducing income inequality.(Huang et al., 2015)obtained research results that low-income developing countries have a negative relationship between economic growth and income inequality. On the other hand, in high-income developing countries there is a positive relationship between economic growth and income inequality.

The success of economic development in Indonesia is of course driven by each province which has the contribution of several dominant sectors, such as the agricultural sector, industrial sector and service sector (Ria Nurul et al, 2021).

Table 1. Growth of the Indonesian Agricultural Sector in 2015-2022

Year	Agricultural sector GDP (billion rupiah)
2015	1,171,445.8
2016	1,210,955.5
2017	1,258,375.7
2018	1,307,253.0
2019	1,354,399.1
2020	1,378,398.9
2021	1,404,190.9
2022	1,435,853.3

Source: BPS Indonesia, 2024

Table is data that describes the growth in the contribution of the agricultural sector to Indonesia's GDP from 2015-2022. It can be seen that every year the contribution of the agricultural sector to Indonesia's GDP always increases from year to year. The increase that occurs on average has a value of 30,000 billion every year. This consistent increase is a good thing for economic development in Indonesia and it also indicates that the government's program for development in the agricultural sector is successful.(Isbah et al., 2016).

The success of development in the agricultural sector was not followed by an increase in the agricultural sector's contribution to Gross Domestic Product. This can be seen based on the following table.

Table 2. Comparison of the Contribution of the Industrial Sector and the Contribution of the Industrial Sector to GDP

Year	Contribution to GDP (%)	
	Agriculture	Industry
2015	13.49	20.99
2016	13.48	20.52
2017	13,16	20.16
2018	13,16	19.86
2019	12.71	19.70
2020	13.70	19.87
2021	13.28	19.24
2022	12, 82	21.40

Source: BPS Indonesia, data processed in 2024

Based on the table above, there are differences in contribution values between the agricultural sector and the industrial sector. This significant difference in value indicates a change in the structure of the economy in Indonesia which is slowly shifting to the industrial sector.

Inequality in income distribution tends to improve during economic growth which experiences a significant increase in income in the traditional sector (agriculture), and vice versa when income in the modern sector (industry and services) increases, what happens is that inequality in income distribution worsens.(Romli et al., 2018). This is in line with research conducted by(Cheong & Wu, 2014)where the increase in the industrial sector in China can result in an increase in people's living standards and increase the country's economic growth even though the increase in economic growth has an impact on widening inequality in income distribution.

Widening income inequality can also be caused by high levels of unemployment in an area, this causes someone not to get wages or income, resulting in widening income inequality between the rich and the poor.(Yoertiara & Feriyanto, 2022). The high level of unemployment that occurs indicates that the level of productivity is decreasing and will trigger a decline in economic growth in that area, while other areas experience an increase in prosperity.(Yusica et al., 2018).

According to the description above, the aim of this research is to examine the impact of economic growth, the contribution of agricultural, industrial and open unemployment levels to income inequality. It is hypothesized that these variables are related to each other.

Method

This research uses a quantitative approach method. Quantitative methods can be interpreted as research methods that use measurement aspects in an objective way towards social phenomena. Data in quantitative method research uses numbers(Kuncoro, 2011). The data used is combined data between cross section data and time series data or also known as panel data. The cross-section data used is data from 34 provinces in Indonesia with a time span of the last five years, namely 2015-2022. The following is a table containing the variables, symbols, units and data sources used.

Table 3. Data Types and Sources

Variable	Symbol	Unit	Data source
Economic growth	Growth	Percent	BPS

Contribution of the Agricultural Sector	KPer	Percent	BPS
Contribution of the Industrial Sector	Kind	Percent	BPS
Open Unemployment Rate	TPT	Percent	BPS
Inequality of Income Distribution	GINI		BPS

Data analysis method

The data analysis method used in this research is descriptive quantitative analysis in the form of panel data regression. Panel data is data obtained from observations of several individuals or (cross-sectional units) each of which was observed in several consecutive time periods (time units).(Widarjono, 2017). The use of this estimation technique is carried out using two methods, namely the Fixed Effect Model (FEM) method and the Random Effect Model (REM) method, then from these two models the best model can be determined to explain the relationship between the dependent variable and the independent variable by using the Chow Test and Hausman Test.

a. Fix Effect Model (FEM) Approach
   The fixed effect model is a model with a different intercept for each subject (cross section), but the slope for each subject does not change over time(Gujarati, 2011). The model is described in the following equation:

$$Y_{it} = \beta_{0i} + \beta_1 X_{1it} + B_2 X_{2it} + \cdots + \beta_n X_{nit} + U_{it}$$

b. Random Effect Model (REM) Approach
   The random effect model is caused by variations in the value and direction of the relationship between subjects which are assumed to be random which are specified in residual form(Kuncoro, 2011). This model estimates panel data where the residual variables are thought to have a relationship between time and between subjects.

The Gini index is the dependent variable in this research, while economic growth, the contribution of the agricultural sector, the contribution of the industrial sector, the open unemployment rate are the independent variables. Using the following model:

$$GINI_{it} = \beta_0 + \beta_1 PDRB_{it} + \beta_2 KPer_{it} + \beta_3 KInd_{it} + \beta_4 TPT_{it} + e_{it}$$

From this equation it can be seen with the following information:

GINIit = Gini Index / Gini Ratio
$PDRB_{it}$ = ADHK Gross Regional Domestic Product Rate of Province i in year t
$KPer_{it}$ = Contribution of the Agricultural Sector of Province i in year t
KIndit =Contribution of the Industrial Sector of Province i in year t
TPT_{it} = Open Unemployment Rate of Province i in year t
β_0 = Intercept
$\beta_1, \beta_2, \beta_3$ = Slope coefficient
e_{it} = Residual (error term)

i = Province
t = Time

Best Model Selection Method

a. Test Chow

Chow test is a test to compare the common effect model with the fixed effect model(Widarjono, 2017).

Ho: Common Effect Model

Ha: Fixed Effect Model

In rejecting or accepting the hypothesis above, an assessment of the Chi Square value is carried out. If Chi Square is more than 0.05 then H0 is accepted and H1 is rejected, thus the model used is the Common Effect Model, whereas if Chi Square is less than 0.05 then H0 is rejected and the model used is the Fixed Effects Model.

b. Hausman test

This test compares the fixed effect model with the random effect model to determine the best model to use as a panel data regression model(Vinet & Zhedanov, 2011). The hypothesis formed in the Hausman test is as follows:

Ho: Random Effect Model

Ha: Fixed Effect Model

In rejecting or accepting a hypothesis, an assessment of the statistical Chi Square probability value is carried out. If the Chi Square probability is more than 0.05 then H0 is accepted and H1 is rejected, thus the model used is the Fixed Effect Model. If the statistical Chi Square probability is less than 0.05; then H0 is rejected and the model used is the Random Effects Model.

Hypothesis test

1. F test

The F test is carried out to determine the level of significance of the influence of the independent variables together on the dependent variable(Ghozali & Ratmono, 2017). In this research, the hypothesis used is:

Ho: The independent variables do not have a significant influence together on the dependent variable,

Ha: The independent variables have a significant influence together on the dependent variable

According to(Ghozali & Ratmono, 2017), The way to make decisions is to use significance probability numbers, namely:

a.) F count > F table, then there is a rejection of Ho, namely the factors that are independent variables, together, have a significant effect on the distribution of income inequality.

b.) F count < F table, then there is acceptance of Ho, namely the independent variables, which together have no real effect on the distribution of income inequality.

The significant level decision making criteria shows that the variable has an influence, namely <0.05 with a confidence level of 90%.

2. Partial Test (t-test)

The t statistical test basically shows how much influence an independent variable individually has in explaining variations in the dependent variable(Ghozali & Ratmono, 2017). To find out whether each variable has a significant effect on the dependent variable. The basis for decision making is to use significance probability figures, then it is tested using the following hypothesis testing rules:

1. T test for economic growth
   a.) H0 (1) : $\beta 1 = 0$
   Economic growth has no effect on inequality in income distribution.
   b.) H1 (1) : $\beta 1 \neq 0$
   Economic growth influences inequality in income distribution.

2. T test for the contribution of the agricultural sector
   a.) H0 (2) : $\beta 1 = 0$
   The contribution of the agricultural sector has no effect on inequality in income distribution.
   b.) H1 (2): $\beta 1 \neq 0$
   The contribution of the agricultural sector influences the inequality of income distribution.

3. T test for industrial sector contribution
   c.) H0 (3) : $\beta 1 = 0$
   The contribution of the industrial sector has no effect on inequality in income distribution.
   d.) H1(3) : $\beta 1 \neq 0$
   The contribution of the industrial sector influences the inequality of income distribution.

4. T test for open unemployment rate
   a.) H0 (4) : $\beta 1 = 0$
   The Open Unemployment Rate has no effect on income distribution inequality.
   b.) H1(4) : $\beta 1 \neq 0$
   The open unemployment rate influences inequality in income distribution.

Results and Discussion

Descriptive Analysis

Table 4. Analysis Statistics

	N	Minimum	Maximum	Mean	Std. Dev
Gini	272	0.247	0.459	0.352	0.03
Growth	272	-15.74	22.94	4.42	3.80
KPer	272	0.08	39.79	19.02	9.18
Kind	272	1.17	43.44	16.11	11.16
TPT	272	1.40	10.95	5.25	1.85

Source: Eviews, data processed 2024

The table above shows the N value or total data for each variable used is 272. Of the 272 sample data for the Gini index figure β0 (Y), the minimum value is 0.247; the maximum value is 0.459; and the average from 2015-2022 is 0.352; This shows that there is little data variance and the numbers are spread evenly because the average value is higher than the standard number (0.03).

The rate of economic growth (Growth / This average exceeds the standard deviation of 3.80, which shows low data deviation and evenly distributed values.

From 2015 to 2022, the average percentage of the agricultural sector (KPer/X2) is 19.02%, while the maximum percentage is 39.79%. These findings are based on data from 272 samples. The data is spread evenly because there is minimal data deviation, as can be seen from the deviation of 9.18 which shows that the average value is higher than the standard value.

The contribution of the industrial sector (KInd/X3) from the 272 existing samples found that the minimum percentage was 1.17%, the maximum percentage was 43.44%, and the average during the 2015-2022 period was 16.11% and the average value -an average that is higher than the standard value indicates minimal data deviation and an even distribution of values, and the standard deviation value is 11.16.

The Open Unemployment Rate (TPT/X4) from 272 existing samples found that the minimum percentage was 1.40%, the maximum percentage was 10.95%, and the standard deviation was 1.85 and the average for the 2015-2022 period was 5. 25%. This shows that the data deviation is small and the values are spread evenly because the average is higher than the standard value.

Selection of the Best Model

Random Effect Model, Fixed Effect Model, and Common Effect Model are three methods used in estimating panel data models to select the optimal model. Therefore, there are three ways to identify the optimal model. To find the best model, Chow, Hausman and Lagrange multiplier tests must be carried out.

a) Test Chow

To select the optimal model between the Fixed Effect Model and the Common Effect Model, the Chow test is used. The probability (p-value < of α (0.05)) was checked to perform the Chow test. It is better to use the Fixed Effect Model rather than the Common Effect Model if the p-value is smaller than α (0.05).

Table 5. Chow test

Effects Test	Statistics	df	Prob.
Cross-section F	61.631193	(33,234)	0.0000
Chi-square cross-section	617.781990	33	0.0000

Source: Eviews, data processed 2024

Based on the results of the chow test carried out, the probability value obtained was 0.000 < 0.05 so that Ha was accepted and H0 was rejected. So from the results of the Chow Test the best model that can be used is the Fixed Effect Model (FEM).

b) Hausman test

Between the Fixed Effect Model and the Random Effect Model, the Hausman test is used to identify which model works best. Probability checking (p-value < of α (0.05)) was carried out using the Hausman

test. It is preferable to use the Fixed Effect Model rather than the Random Effect Model when the p value is less than α (0.05).

Table 6. Hausman test

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-section	25.239555	4	0.0000

Source: Eviews, Data processed 2024

The probability value obtained is 0.000 < 0.05, which means Ha is accepted and H0 is rejected based on the Hausman test results. Therefore, the Fixed Effect Model (FEM) is the most applicable model based on the Hausman Test results.

The Fixed Effect Model (FEM) is the most appropriate model for this research based on these tests.

Classic assumption test

a) Normality Test

The normality test looks at the distribution of data on variables, whether the data is normally distributed or not. By hypothesis:

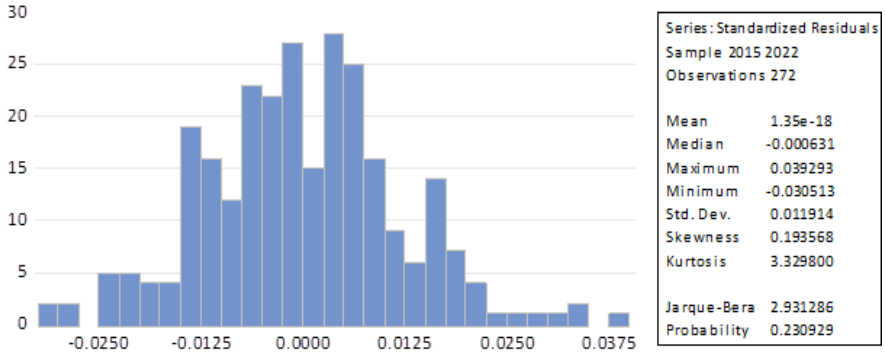
H0: Data is normally distributed

H1: Data is not normally distributed

Probability < Alpha (0.1); H0 is rejected, H1 is accepted

Probability > Alpha (0.1); H1 is rejected, H0 is accepted

Figure 2. Normality Test



Source: Eviews, Data processed 2024

The results of the residual normality test above are based on a probability of 0.230929 exceeding the alpha value of 0.1, meaning Probability > Alpha (0.1); H1 is rejected, H0 is accepted which indicates that the data is normally distributed.

b) Heteroscedasticity Test

The Heteroscedasticity Test is carried out to test whether there are differences in variance or residuals from one observation to another. By looking at the probability value of the independent variable, whether it is greater than α (0.1), then it is free from the problem of heteroscedasticity.

Table 7. Heteroscedasticity Test

C	0.008286	0.009239	0.896862	0.3707
GROWTH	0.000125	7.77E-05	1.603437	0.1102
SPER	-2.26E-05	0.000345	-0.065513	0.9478
SIND	-0.000218	0.000192	-1.131927	0.2588
TPT	-7.18E-06	0.000309	-0.023222	0.9815

Source: Eviews, data processed 2024

Based on these results, the probability value of the independent variables is > 0.1, namely the economic growth variable, the contribution of the agricultural sector, the contribution of the industrial sector, and the open unemployment rate, so these four independent variables are free from heteroscedasticity problems.

c) Multicollinearity Detection

Multicollinearity detection sees multicollinearity or high correlation between independent variables. If the coefficient value between two independent variables exceeds 0.80, then there is a multicollinearity problem

Table 8. Mukticolinierity Detection

	GROWTH	SPER	SIND	TPT
GROWTH	1,000000	0.110015	-0.066178	-0.197710
SPER	0.110015	1,000000	-0.527028	-0.413271
SIND	-0.066178	-0.527028	1,000000	0.426297
TPT	-0.197710	-0.413271	0.426297	1,000000

Source: Eviews, data processed 2024

Based on the results, the correlation coefficient value does not exceed 0.80, so this research does not have multicollinearity problems.

Panel Data Regression Estimation Results

After testing using 2 methods for determining the best model and classical assumption testing, the model used is the Fixed Effect Model. The following is Table 4.2, the results of regression estimation using the Fixed Effect Model.

Table 9. Fix Effect Model (FEM) Estimation Results

Variable	Coefficient	T-stat	Prob
C	0.254158	8.479089	0.0464
GROWTH	0.000504	2.001983	0.0001

KPER	0.004586	4.100237	0.5707
kind	0.000354	0.567830	0.5510
TPT	0.000599	0.597061	0.0000

Source: Eviews, data processed 2024

1. Hypothesis Testing

a. T-statistical test

The t-statistical test aims to see whether each variable is significant. If the variable is significant, then the variable can be used or is valid.

- Variable X1 (Economic Growth)
  This test was carried out using α = 0.05 with a df of 267 for this study, the t-table result was 1.969. Because the t-stat value (2.001) > t-table (1.969), so Ha is accepted. So it can be concluded that the Economic Growth variable has a significant effect on the distribution of income inequality.
- Variable X2 (Contribution of the Agricultural Sector)
  This test was carried out using α = 0.05 with a df of 267 for this study, obtained a t-table result of 1.969. Because the t-stat value (4.100) > t-table (1.969), so Ha is accepted. So it can be concluded that the Agricultural Sector Contribution variable has a positive effect on the distribution of income inequality.
- Variable X3 (Industrial Sector Contribution)
  This test was carried out using α = 0.05 with a df of 267 for this study, obtained a t-table result of 1.969. Because the t-stat value (0.5678) < t-table (1.969), Ha is rejected. So it can be concluded that the Industrial Sector Contribution variable has no significant effect on the distribution of income inequality.
- Variable X4 (Open Unemployment Rate)
  This test was carried out using α = 0.05 with a df of 267 for this study, the t-table result was 1.967. Because the t-stat value (0.5970) < t-table (1.969), Ha is rejected. So it can be concluded that the Open Unemployment Rate variable has no significant effect on the distribution of income inequality.

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b. F-statistic test

Table 10. F-statistic test

F-statistics	α	F-table	Prob	Conclusion
61.52272	0.05	2.37	0.0000	H0 rejected

In this study, n used was 272, α = 0.05, df1 = k = 4, df2 = 267, so an f-table value of 2.37 was obtained. Based on these results, it can be concluded that the independent variables jointly influence the Gini Index, because the f-stat value (61.52272) > f-table (2.37).

c. Coefficient of Determination (R2)

The coefficient of determination is used to measure the ability of a model to explain the dependent variable. The coefficient of determination value is represented by the numbers 0 to 1. If the coefficient of determination value gets closer to 1, then the independent variables can explain the dependent variable. From the results of data processing, the coefficient of determination (R2) is 0.7962, meaning that the independent variable can explain the dependent variable by 79.62 percent.

From the results of the research that has been carried out, the results obtained in the model are as follows:

GINI =0.254158+0.000504GROWTHit+0.004586KPerit+0.000354Kind +0.000599TPTεt

The coefficient of each independent variable and its impact on the dependent variable is shown by the research estimation findings. An explanation of the research regression results is presented below:

- Because the regression coefficient for economic growth is positive and large, it can be concluded that economic growth has an effect on the Gini Index. According to one interpretation, the Gini Index will increase by 0.000504 units (units) for every unit (percentage) increase in the Economic Growth variable.
- The regression coefficient for the Contribution of the Agricultural Sector is positive and significant, so it can be interpreted that the total Contribution of the Agricultural Sector has a positive and significant influence on the Gini Index. It can be interpreted that if the Contribution variable of the Agricultural Sector increases by 1 unit (percent) then the Gini Index will increase by0.004586(unit).
- The regression coefficient for the Industrial Sector Contribution is positive and not significant, so it can be interpreted that the total Industrial Sector Contribution has a positive and insignificant influence on the Gini Index.
- The regression coefficient for the Open Unemployment Rate is positive and not significant, so it can be interpreted that the total Open Unemployment Rate has a positive and insignificant influence on the Gini Index.

The Influence of Economic Growth on the Gini Index

This value is quite large and positive, based on the findings of the Economic Growth regression. These findings show that for every unit (percentage) increase in the Economic Growth variable, the Gini Index will increase by 0.000504 units. Economic growth has a beneficial impact because the greater the economic growth of a region, the greater the income inequality. This finding is also consistent with other research which finds that economic expansion has a positive impact on income disparities (Ratih et al., 2024).

The Influence of the Agricultural Sector's Contribution to the Gini Index

The agricultural sector provides a good and quite large contribution, based on regression calculations. The Gini Index will increase by 0.004586 (unit) if the Agricultural Sector Contribution variable increases by 1 unit (percent). In Indonesia, there are a number of reasons why the agricultural industry contributes positively to disparities in wealth between regions. Low productivity and technology in the agricultural sector, which often uses traditional methods, limits the income of farmers and agricultural workers.

The Influence of the Industrial Sector Contribution to the Gini Index

Regression analysis has been carried out and the results show that the contribution of the industrial sector to the Gini index in provinces in Indonesia is not statistically significant. This is in line with research conducted by(Tri Winarni & Hartono, 2023)which states that empirically the manufacturing sector does not have a special role in reducing income inequality. The even distribution of industry across regions reduces the concentration of wealth in one particular area, while strong economic diversification ensures that income does not depend on the industrial sector alone.

The Influence of the Open Unemployment Rate on the Gini Index

The open unemployment rate in Indonesia does not have a real impact on the Gini index, based on the findings of the regression analysis carried out. In accordance with research conducted on the island of Java, the income gap was not influenced by the level of open unemployment.(Farhan & Sugianto, 2022).

The Effect of Income Inequality in Each Province in Indonesia 2015-2022

a. Individual Effect of Provinces in Indonesia

Below is a table to see the Individual Effect values for each province in Indonesia.

Table 11. Cross-Section Fixed Effect Values for All Provinces in Indonesia

No.	Province	*Effect*	*Individual Effects*
1	DKI Jakarta	0.138243	0.392401
2	DI Yogyakarta	0.131816	0.385974
3	Jawa Barat	0.094621	0.348779
4	Papua	0.085107	0.339265
5	Banten	0.074334	0.328492
6	Papua Barat	0.073167	0.327325
7	Jawa Timur	0.061932	0.31609
8	Kep, Riau	0.050775	0.304933
9	Bali	0.050010	0.304168
10	Jawa Tengah	0.032628	0.286786
11	Kalimantan Timur	0.032355	0.286513
12	Sulawesi Selatan	0.031688	0.285846
13	Sulawesi Tenggara	0.020465	0.274623
14	Sulawesi Utara	0.015907	0.270065
15	Nusa Tenggara Barat	0.014246	0.268404
16	Kalimantan Selatan	0.008785	0.262943
17	Sumatera Selatan	-0.001836	0.252322
18	Gorontalo	-0.018801	0.235357
19	Nusa Tenggara Timur	-0.032653	0.221505
20	Kalimantan Tengah	-0.036724	0.217434
21	Kalimantan Utara	-0.045073	0.209085
22	Maluku	-0.046098	0.20806
23	Kalimantan Barat	-0.048390	0.205768
24	Bengkulu	-0.049801	0.204357
25	Sulawesi Tengah	-0.051383	0.202775
26	Maluku Utara	-0.052958	0.2012
27	Jambi	-0.053531	0.200627
28	Riau	-0.053553	0.200605
29	Sumatera Barat	-0.060751	0.193407
30	Sumatera Utara	-0.062949	0.191209
31	Aceh	-0.067026	0.187132
32	Lampung	-0.067894	0.186264
33	Sulawesi Barat	-0.080019	0.174139
34	Kep. Bangka Belitung	-0.086640	0.167518

Source: Appendix 11, Cross-Section Fixed Effects Results

Based on the table, the Fixed Effect values for all provinces in Indonesia are obtained, where the table has been sorted based on the province's Individual Effect values from highest to lowest. A high positive coefficient value shows that the province has a high level of income inequality with a constant percentage of economic growth, contribution from the agricultural sector, contribution from the industrial sector, and

a constant level of open unemployment. In the regression results, it was found that DKI Jakarta had the greatest influence with an Individual Effect level of 0.392401, followed by DI Yogyakarta province with an Individual Effect level of 0.385974 and West Java of 0.348779 assuming all independent variables were constant, so the three provinces It has the highest level of income inequality in Indonesia. The province with the lowest Individual Effect value is in Kep province. Bangka Belitung with an Individual Effect level of -0.167518, then West Sulawesi province with an Individual Effect level of -0.174139 and Lampung province of -0.186264.

During the 2015–2022 period, DKI Jakarta, the province, which is the capital of Indonesia, is one of the regions with the largest level of income disparity. The cause of this is several factors, one of which is because the Human Development Index (HDI) in Jakarta is high but is not followed by equal welfare of the population where there are still many poor people in Jakarta so that inequality is increasing.

Kep Province has the lowest income inequality. Bangka Belitung, different from DKI Jakarta, the poverty level in Kep. Bangka Belitung is considered low; this is because access to managing resources and good economic opportunities helps the community to have high incomes. Apart from that, government programs to overcome poverty and empower the economy have helped reduce income inequality in Kep. Bangka Belitung.

Implications of Research Results

The research results show that economic growth has a significant positive effect on the Gini Index, while the contribution of the agricultural sector is also positive and significant, and the contribution of the industrial sector and the open unemployment rate do not have a significant effect on the Gini Index, have important implications for economic development policy in Indonesia.

Economic growth that has a positive effect on income inequality indicates that the benefits of this growth have not been spread evenly across all levels of society, perhaps due to the concentration of profits in certain sectors or high income groups. The significant contribution of the agricultural sector to inequality shows the existence of structural problems in this sector, such as unequal land ownership, less advanced agricultural technology, and limited market access for small farmers.

Conclusion

Based on the research findings, the conclusions obtained are as follows:

1. Research findings show that the Gini index in Indonesia is positively and significantly influenced by economic growth. This shows that when economic development increases, income inequality will also increase.
2. Based on research findings, the Gini index in Indonesia is significantly positively impacted by the contribution of the agricultural sector. This shows that when the contribution of the agricultural sector increases, the level of income disparity in Indonesia will also increase.
3. The findings of this study show that the Indonesian Gini index is not significantly affected by the contribution of the industrial sector.,
4. The research findings show that the Gini index in Indonesia is not significantly influenced by the level of open unemployment.

References

Cheong, T. S., & Wu, Y. (2014). The impacts of structural transformation and industrial upgrading on regional inequality in China. China Economic Review, 31, 339–350.

https://doi.org/10.1016/j.chieco.2014.09.007

Farhan, M., & Sugianto, S. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Tingkat Ketimpangan Pendapatan Di Pulau Jawa. Sibatik Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, Dan Pendidikan, 1(4), 243–258. https://doi.org/10.54443/sibatik.v1i4.29

Ghozali, I., & Ratmono, D. (2017). Analisis Multivariat dan Ekonometrika. In Universitas Diponegoro.

Gujarati, D. (2011). Econometrics by Example. In Social Indicators Research.

Huang, H. C., Fang, W. S., Miller, S. M., & Yeh, C. C. (2015). The effect of growth volatility on income inequality. Economic Modelling, 45, 212–222. https://doi.org/10.1016/j.econmod.2014.11.020

Isbah, U., Yani, R., Program, I., Ekonomi, S., Jurusan, P., & Ekonomi, I. (2016). Analisis Peran Sektor Pertanian Dalam Perekonomian Dan Kesempatan Kerja Di Provinsi Riau.

Kuncoro, M. (2011). Metode Kuantitatif : Teori dan Aplikasi untuk Bisnis & Ekonomi. In UPP STIM YKPN. UPP STIM YKPN.

Putri, Y. E., & Erita. (2019). Analisis Pertumbuhan Ekonomi Dan Ketimpangan Pendapatan, Panel Data Enam Provinsi Di Pulau Jawa. Jurnal Inovasi Pendidikan Ekonomi, 9(1), 27. https://doi.org/10.24036/011041740

Ratih, A., Sidiq, M., Gunarto, T., Aida, N., & Yuliawan, D. (2024). The Influence of Economic Openness on Income Inequality Among Provinces in Indonesia. Journal Eduvest, 4(3). http://eduvest.greenvest.co.id

Romli, M. S., Hutagaol, M. P., & Priyarsono, D. S. (2018). Transformasi Struktural: Faktor-Faktor Dan Pengaruhnya Terhadap Disparitas Pendapatan Di Madura. Jurnal Ekonomi Dan Kebijakan Pembangunan, 5(1), 25–44. https://doi.org/10.29244/jekp.5.1.25-44

Rubin, A., & Segal, D. (2015). The effects of economic growth on income inequality in the US. Journal of Macroeconomics, 45(May), 258–273. https://doi.org/10.1016/j.jmacro.2015.05.007

Sukirno, S. (2011). Teori Pengantar Ekonomi Makro. In Jakarta.

Todaro, Michael. P. (2008). Pembangunan Ekonomi (Jilid 1) (Edisi 9). In Edisi Kesembilan terjemahan oleh Haris Munandar dan Puji AL Jakarta: Erlangga.

Tri Winarni, D., & Hartono, D. (2023). Dampak Pertumbuhan Sektoral terhadap Ketimpangan Pendapatan dan Kemiskinan di Indonesia:Analisis menggunakan Social Accounting Matrix dan Micro-Simulation. Jurnal Kebijakan Ekonomi, 18(1), 1–20. https://doi.org/10.21002/jke.2023.01

Vinet, L., & Zhedanov, A. (2011). A “missing” family of classical orthogonal polynomials. In Journal of Physics A: Mathematical and Theoretical (Vol. 44, Issue 8). https://doi.org/10.1088/1751-8113/44/8/085201

Widarjono, A. (2017). Ekonometrika Pengantar dan Aplikasinya. In UPP STIM YKPN. UPP STIM YKPN.

Yoertiara, R. F., & Feriyanto, N. (2022). Pengaruh pertumbuhan ekonomi, IPM, dan tingkat pengangguran terbuka terhadap ketimpangan pendapatan provinsi-provinsi di pulau Jawa. Jurnal Kebijakan Ekonomi Dan Keuangan, 92–100. https://doi.org/10.20885/jkek.vol1.iss1.art9

Yusica, L. V., Malik, N., & Arifin, Z. (2018). Analisis Pengaruh Pertumbuhan Ekonomi, Aglomerasi Dan Tingkat Pengangguran Terhadap Ketimpangan Antar Wilayah Kabupaten/Kota Di Provinsi Kalimantan Timur. Jurnal Ilmu Ekonomi, 2, 230–240.