Economic contraction and inequality of two provinces with coastal characteristics in Sumatra: what are the causes?

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KEYWORDS
Economic Growth
Economic in Equality
Economic Recession

ABSTRACT The aim of this research is to find the causes of the problem of economic contraction and economic inequality in the Bengkulu and Kepulauan Riau provinces. The type of data collected is only sourced from secondary data, namely from the Indonesian Central Bureau of Statistics (2022) and data from literature or libraries through the documentation method and literature study. Data analysis was carried out through statistical analysis methods and qualitative descriptive analysis methods. The results showed that the Pearson Correlation between economic growth and economic inequality was 0.696 (in Bengkulu) and 0.689 (in the Kepulauan Riau). The trend of economic growth and economic inequality in both provinces is decreasing. Bad influence (backwash effect) in the form of a global economic recession (economic downturn) and the case of the Covid-19 pandemic (2019 – 2020) are considered to be the cause of economic contraction in the form of a decrease in economic growth (the extreme occurred in 2020, with -0.02 in the provinces of Bengkulu and -3.80 in Kepulauan Riau province). The trend of economic inequality (measured by the Gini index) which has decreased from year to year is considered a form of an anomaly because it is considered contrary to the decline in economic growth at the same time.

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1. INTRODUCTION

The provinces of Bengkulu and the Kepulauan Riau are two of the ten provinces on the island of Sumatra, with coastal characteristics facing two different oceans. Bengkulu Province is directly facing the Indian Ocean, while the Kepulauan Riau province is directly facing the Indonesian Ocean. The consequence of this condition is that it allows the emergence of differences in economic, social, and cultural aspects in the community and in the region. Differences in economic aspects can occur in the problem of economic contraction (economic growth), economic inequality, and others. The conjunction or fluctuation of these two economic problems is caused by the problem of the economic downturn which is often termed a prolonged economic recession. In the macroeconomics context, the economic conjuncture can take place in the short and long term. This contracting economic condition is usually accompanied by widening economic inequality (usually indicated by a larger Gini index number). The results of research in developing countries show that in general economic inequality (poverty severity) will be higher if the country experiences a long economic conjuncture (Choudhury, 2021).

Based on empirical data, the economic growth and economic inequality of the two provinces, some of which have coastal characteristics (Bengkulu and Kepulauan Riau provinces), tend to decline from year to year (2011-2021). Developmentally, the variables of economic growth and economic inequality in the two provinces can be seen in table 1.

Table 1 shows that economic growth in the provinces of Bengkulu and the Riau Archipelago has decreased drastically from 2011 to 2021. This decline coincided with the rise of the Covid-19 pandemic from the beginning of 2019 to 2021. The impact left by the Covid-19 pandemic is that many companies, especially labor-intensive based companies, are experiencing bankruptcy due to high economic costs and the effects of the global economic recession so the negative effect (backwash effect) befalls regional economic activities (provinces) in the form of economic contraction (economic downturn) or a decrease in income regional economy drastically. This decrease in regional income has had an impact on reducing the level of economic growth, even to below zero (economic growth rate of -0.02 in Bengkulu province and -3.80 in Kepulauan Riau province). Table 1 also shows the phenomenon of decreasing economic inequality (proxied by the Gini Index) from year to year (2011-2021). This reduction in economic inequality indicates an anomalous positive impact as is common. In another sense, concurrently with the pressure of a global economic recession coupled with the pressure of the Covid-19 pandemic, economic inequality usually widens due to increasing open unemployment (Khrismaningrum, 2020; Yuniarti et al., 2020).
The phenomenon of economic contraction, theoretically very decisive in increasing regional economic growth (measured by the ability to increase gross regional domestic income) can be explained through the fluctuations in the ups and downs of national income (as an indicator of economic growth) can be explained through the mechanism of the movement of the Aggregate Demand (AD) curve and the Aggregate Supply (AS) curve; where in the short run, the slope of the Aggregate Demand (AD) curve is negative, while the slope of the Aggregate Supply (AS) curve is positive (Hartman et al., 2017).

Conceptually, national income (in the research context, this variable uses gross regional domestic income indicators) in the long run through increases in capital and human resources. Under conditions of full employment, open unemployment will be equal to zero, but frictional unemployment and structural unemployment will still exist. So, in conditions of full employment (the demand for labor equals the supply of labor), open unemployment cannot be equal to zero. In a long-term economic situation, the open unemployment rate will move towards the natural rate of unemployment, where the aggregate output level (aggregate national income), at the natural unemployment rate is called the natural rate of output. The consequence that occurs is that the Aggregate Supply (AS) curve will turn vertical and its elasticity becomes perfectly inelastic, while the slope of the Aggregate Demand (AD) curve does not change and is always negative (Brueckner & Lederman, 2018).

Solow (in his theory of linear growth) explains that an increase in economic growth (output) is determined/caused by an increase in the quality of human resources (manifested/proxied by increased technological progress) and the growing accumulation of capital in society. Graphically (see Figure 1), the movement of increased output (national income/gross regional domestic income) is shown through the upward movement of the production/output curve (movement from Production/Output 1 to Production/Output 2). The greater the improvement in the quality of human resources (the higher the quality of technology) and the greater the ability to accumulate capital, the greater the upward movement of the output curve. In other words, the economic growth of a region (province) will continue to increase from time to time, if in the long term through short term efforts are made to improve the quality of human resources (through increasing innovation and other factors).

2. LITERATURE REVIEW

The phenomenon of economic contraction, theoretically related to macroeconomic studies, includes the problem of economic growth (measured by the national income variable) with several variables or indicators related to it, including public consumption (C), private investment (I), government expenditure (G), and net exports (X-M). Economic contraction involves economic fluctuations (conjuncture) involving short-term national income (at the provincial level it is termed gross regional domestic income) around its long-term trend. In macroeconomic theory, fluctuations in the ups and downs of national income (as an indicator of economic growth) can be explained through the mechanism of the movement of the Aggregate Demand (AD) curve and the Aggregate Supply (AS) curve; where in the short run, the slope of the Aggregate Demand (AD) curve is negative, while the slope of the Aggregate Supply (AS) curve is positive (Hartman et al., 2017).

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Table 1. Economic Growth and Economic Inequality (Gini Index Number) in Bengkulu and Kepulauan Riau Provinces (2011 - 2021)

<table>
<thead>
<tr>
<th>Year</th>
<th>Bengkulu</th>
<th>Kepulauan Riau</th>
<th>Bengkulu</th>
<th>Kepulauan Riau</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>6.85</td>
<td>6.96</td>
<td>0.372</td>
<td>0.379</td>
</tr>
<tr>
<td>2012</td>
<td>6.83</td>
<td>7.63</td>
<td>0.360</td>
<td>0.393</td>
</tr>
<tr>
<td>2013</td>
<td>6.07</td>
<td>7.21</td>
<td>0.372</td>
<td>0.380</td>
</tr>
<tr>
<td>2014</td>
<td>5.48</td>
<td>6.60</td>
<td>0.355</td>
<td>0.373</td>
</tr>
<tr>
<td>2015</td>
<td>5.13</td>
<td>6.02</td>
<td>0.376</td>
<td>0.364</td>
</tr>
<tr>
<td>2016</td>
<td>5.28</td>
<td>4.98</td>
<td>0.357</td>
<td>0.354</td>
</tr>
<tr>
<td>2017</td>
<td>4.98</td>
<td>1.98</td>
<td>0.351</td>
<td>0.334</td>
</tr>
<tr>
<td>2018</td>
<td>4.97</td>
<td>4.47</td>
<td>0.362</td>
<td>0.33</td>
</tr>
<tr>
<td>2019</td>
<td>4.94</td>
<td>4.83</td>
<td>0.34</td>
<td>0.34</td>
</tr>
<tr>
<td>2020</td>
<td>0.02</td>
<td>-3.80</td>
<td>0.334</td>
<td>0.339</td>
</tr>
<tr>
<td>2021</td>
<td>3.24</td>
<td>3.43</td>
<td>0.321</td>
<td>0.339</td>
</tr>
</tbody>
</table>

BPS (Central Statistics Agency) Indonesia (2022)
capabilities and technological creativity) and increasing investment in order to increase capital as a whole consistent (Osiobe, 2019; Gumpert, 2019).

The increase or decrease in the level of economic inequality is highly dependent on the ability of the regions (provinces) to regulate/control the distribution of income to the regions below them (cities, districts, sub-districts, sub-districts, and villages) evenly. A measure of economic inequality (income disparity) that is often used is the Gini index. This condition of economic inequality is empirically shown by the results of research in urban and rural areas in South Sulawesi Province. The results of research in Indonesia also show that the open unemployment rate is an important variable that has a significant effect on economic inequality (meaning that the higher the open unemployment rate, the wider economic inequality). Theoretically, it is shown that economic inequality is closely related to economic growth (one measure of the phenomenon of economic contraction). If there is an economic contraction in a country or region (province), where one of the indicators is a decrease in the level of economic growth, then this condition will have a negative impact (backwash effect) on a decrease in the number of employment opportunities or an increase in the number of open unemployment (Simangunsong & Kuang-Hui, 2018; Fitrawaty, 2020; Kurniawan & Huda, 2020).

3. METHOD

The type of research used in this study is descriptive research, using a deductive approach. The data collected is sourced from secondary data, namely from the Indonesian Central Bureau of Statistics / BPS (2022) and data from literature or libraries through documentation and literature study methods. Secondary data taken comes from two issues that are the focus of research, namely economic growth and economic inequality that occurs in two provinces on the island of Sumatra, namely the province of Bengkulu and the province of Kepulauan Riau. There are two reasons why the two provinces were taken as research objects: (1) the two provinces (Bengkulu and Kepulauan Riau) are provinces where both of their areas have coastal characteristics (tend to have similar/same character populations) and (2) the two provinces have the same trend, where both provinces experienced a decrease in the percentage of economic growth and a decrease in the economic inequality index from year to year.

The secondary data taken is time series data from 2011 to 2021. The raw data collected, is then analyzed using descriptive analysis methods and statistical analysis methods. Both of these analytical methods are used with the aim of identifying the shape of the trend, the correlation index number between economic growth and economic inequality, as well as identifying the causes of research problems. Pearson Correlation Analysis (Product Moment correlation) is a method of statistical analysis (quantitative analysis) that is used to measure the closeness of a linear relationship between two variables that have normal data distribution (Mean = Median = Mode). In the research context, Variable 1 (Variable X) is economic growth, while Variable 2 (Variable Y) is the index of economic inequality. This Pearson Correlation is used to measure the closeness of the correlation between economic growth variables and the economic inequality index, which is compared between events in the Bengkulu province and in the Kepulauan Riau province. The mathematical formula for Pearson Correlation is: (Mustafidah & Giarto, 2021)(Mustafidah & Giarto, 2021; Edelmann et al., 2021)

\[ r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \cdot \sqrt{N \sum Y^2 - (\sum Y)^2}} \]

- \( r_{xy} \) = Correlation index number between variable X and variable Y
- \( N \) = Number of samples
- \( \sum X \) = Sum of squares of variable X
- \( \sum Y \) = Sum of squares of variable Y
- \( \sum XY \) = Number of multiplication results between X scores and Y scores
- \( \sum X \) = Number of variables X
- \( \sum Y \) = Number of variables Y

The significance between variable X and variable Y is carried out using the criteria of using r tables at a significance level of 0.05; If the value is positive and \( r \)-count \( \geq \) r-table, then there is a significant relationship between variable X and variable Y, if \( r \)-count \( \leq \) r-table then there is no significant relationship between variable X and variable Y.
The qualitative descriptive analysis method (qualitative analysis) is an analytical method used for the purpose of identifying, uncovering, and elaborating the causes of the occurrence of anomaly phenomena related to the decline in economic growth as an indicator of the variable economic contraction and a decrease in economic inequality (measured by a Gini index number). The process of identifying, uncovering, and elaborating the causes of anomalistic phenomena is carried out by means of: (Tahoni & Mambur, 2020).

a. Conducting a literature study on the two problems that occur (decreasing economic growth and economic inequality),
b. Conducting a study of empirical data (secondary data) relating to the phenomenon of declining economic growth and economic inequality in the provinces of Bengkulu and the Kepulauan Riau
c. To compare with the results of quantitative analysis (trend and Pearson Correlation index)
d. Reviewing the results of previous studies (through reviews of reputable journals related to research issues)
e. Perform a synthesis of the analysis stages that have been carried out.

4. RESULTS AND DISCUSSION

4.1 Results

Based on Table 1, the calculation results are shown in the form of a trend (linear) in Figure 2 (for a decrease in economic growth in the Bengkulu and Kepulauan Riau provinces) and Figure 3 (for a reduction in economic inequality in the Bengkulu and Kepulauan Riau provinces).

![Figure 2. The Trend of Economic Growth in Bengkulu and Kepulauan Riau Provinces (2011 - 2021)]

![Figure 3. Economic Inequality (Gini Index Number) in Bengkulu and Kepulauan Riau Provinces (2011 - 2021)]

The results of Pearson Correlation calculations with SPSS software obtained a relationship/correlation between economic growth and economic inequality which is presented in Table 2.

<table>
<thead>
<tr>
<th>Province</th>
<th>Pearson Correlation of Economic Growth and Economic Inequality (N=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bengkulu</td>
<td>0.696*</td>
</tr>
<tr>
<td>Kepulauan Riau</td>
<td>0.689*</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed)

Source: Calculation Results (Data processed) (2023)

4.2 Discussion

4.2.1 Conjuncture of Economic Contraction (Economic Growth), Economic Inequality, and the Causing Variables

Figure 2 shows the trend of declining economic growth from year to year (2011–2021). This sharp decline in the economic growth variable appears to have occurred in an extreme manner from 2019 to 2020 (the figures are -0.02 for the Bengkulu province and -3.80 for the Kepulauan Riau province). The gap research of this study is that the two provinces (Bengkulu and Kepulauan Riau) both have coastal characteristics, it turns out that the extreme level of decline in economic growth is not in sync or differs quite a lot, where the rate of decline in economic growth in the Kepulauan Riau province is much higher extreme than with Bengkulu province. This phenomenon gives an indication of the existence of anomalistic problems in the two provinces. This anomaly problem should not have happened because both of them have coastal characteristics. Other research also shows that there are many research results on provinces on the island of Sumatra whose economic growth trends are not in sync with one another. This means that this problem at first glance indicates differences in the ownership of natural resource wealth, the quality of human resources, the ability to accumulate capital resources, and the ability of entrepreneurial resources; where the four resources are very decisive in increasing regional economic growth (measured by the ability to increase gross regional domestic income) (Farhan, 2018; Nofitasari et al., 2017).

Looking at the economic inequality variable, Figure 2 shows the trend that occurred in the provinces of Bengkulu and the Kepulauan Riau both decreased although not so sharply (gradual decline). The trend of declining economic inequality (as measured by the Gini index number) shows that economic conditions in both provinces are improving. This phenomenon actually shows a contradictory correlation, where in conditions of a downward trend of economic growth, the trend of economic inequality should increase. Strengthened by the research results of Syamsir & Rahman, improving regional economic conditions (indicated by an increase in economic growth) and the quality of human resources will be able to reduce the level of economic inequality. The results of Fitrawaty’s research also show that in In-
donesia, the unemployment rate has a significant effect on economic inequality (Fitrawaty, 2020; Syamsir & Rahman, 2018; Simangunsong & Kuang-Hui, 2018).

4.2.2 Correlation between Economic Contraction (Economic Growth) and Economic Inequality, and the Causing Variables

Based on Table 2, the Pearson Correlation between economic growth and economic inequality in the two provinces (Bengkulu and Kepulauan Riau provinces) has a significant and quite strong correlation (0.696 in Bengkulu province and 0.689 in Kepulauan Riau province). Judging from the correlation sign, the two provinces are equally positively correlated, meaning that the two provinces have a linear relationship/linear correlation. This means that if economic growth declines, the consequence is that economic inequality tends to decrease. Theoretically, this relationship is illogical, because there is a downward trend in economic growth, which means a decrease in national income (a decrease in gross regional domestic income in both provinces), which has an impact on increasing unemployment simultaneously with the pressures of recession and the covid-19 pandemic (around 2019–2020), where all economic activity experienced sluggishness, many companies went bankrupt, and many workers were laid off. This condition will certainly bring the condition of economic inequality even worse. This is reinforced by several research results which show that in the era of economic depression (global economic recession and the Covid-19 pandemic), in general, each region was unable to carry out economic development effectively, so theoretically it was rather difficult to maintain consistency so that economic inequality did not get worse (Kadirwansyah et al., 2021; Pratiiwi, 2021).

Table 2 shows that the Pearson Correlation coefficient between economic growth and economic inequality in Bengkulu province (0.696) is greater than in the Riau Islands province (0.689). This indicates that economic development and income distribution in Bengkulu province are more effective and more consistent than in the Riau Archipelago. The impact of the global economic recession and the Covid-19 pandemic was not felt in Bengkulu province. This phenomenon is reinforced by the trend of economic growth and economic inequality in Bengkulu which is not so sharp, along with the trend of both problems which are both decreasing.

4.2.3 Analysis of the Causes of Economic Contraction and Economic Inequality in Bengkulu and Kepulauan Riau Provinces

The phenomenon of economic contraction, which is proxied by the variable economic growth, actually has a downward trend (shown in Figure 2). However, along the way, an extreme decline occurred in 2019–2020. The results of the analysis show that this extreme decline occurred simultaneously with the outbreak of the Covid-19 pandemic, which directly and indirectly caused economic activity in the two provinces (Bengkulu and Kepulauan Riau) to experience sluggishness or stagnation. The results of the analysis show that the severe impact that occurred in the form of a continuous decline in economic growth in the two provinces was caused by four factors, including (1) the two provinces were not ready for quite extreme economic turmoil, especially in 2019–2020, (2) the two provinces are provinces that are partly coastal areas, which tend to have labor-intensive industries (many companies are not immune to quite extreme economic shocks/conjunctures), (3) most of the human resources are of low quality (measured by indicators of educational level), and (4) entrepreneurial ability is still relatively low. The results of a study in Bengkulu province showed that some people who live in coastal areas generally have low education (an indicator of the quality of human resources) so it has an impact on the low ability to significantly increase regional economic growth (Mikhral, 2020; Pratama & Utama, 2019).

Figure 3 also shows the phenomenon of the trend of economic inequality that has occurred in the provinces of Bengkulu and the Kepulauan Riau which has gradually decreased. The trend is decreasing, although gradually, this indicates that the condition of economic inequality in the two provinces is getting smaller or in other words, the economic condition is getting better and more evenly distributed. Associated with the severity of poverty, declining inequality shows that the gap between those who are categorized as poor and those who are categorized as rich is getting smaller. However, the results of the analysis (elaboration) show that the phenomenon of economic inequality which should have increased (the anomaly case), is actually caused by differences in the level of ownership of four important and strategic factors/resources, including (1) the potential of human resources owned by each province (in terms of quality and quantity), (2) the wealth of natural resources owned by each province, (3) the ability to accumulate capital resources by each province, and (4) the ability of entrepreneurial resources. From theoretical and empirical studies, the four factors together are proven to be capable of producing economic progress, increasing economic growth, and supporting the process of sustainable economic development in a country or region (Afiandi & Handayani, 2021; Syaifullah & Sari, 2021).

4.2.4 Novelties of the Research

Based on the results of empirical studies, theoretical studies, and a review of previous research results; Finally, two findings (novelty) can be stated as follows:

a. The case of the trend of declining economic inequality and in line with the trend of economic growth, which theoretically should be in the opposite direction, does not always occur in all regions (provinces). This depends on the ability of each region (province) to manage and optimize the four factors (resources) they have, namely human resources, natural resources, capital resources, and entrepreneurial resources in increasing economic progress through increased economic growth, in the region (province).

b. The role of stakeholders is crucial in consistently increasing economic growth and maintaining economic inequality so that it does not widen. The stakeholders referred to are (1) the government as the holder of political will, (2) business units as producers of goods and services, (3) the public as consumers of the goods and services produced, and (4) universities as agents of knowledge transfer.
5. CONCLUSIONS

a. The impact in the form of a continuous decline in economic growth in the two provinces (Bengkulu and Kepulauan Riau) is caused by four factors, namely (1) the two provinces (Bengkulu and Kepulauan Riau) are not ready to face economic turmoil (economic conjuncture) which is quite extreme, (2) because the regions of the two provinces are partly coastal and their industries tend to be labor-intensive, (3) most of the human resources they have are of low quality, and (4) entrepreneurial skills are still low.

b. The Phenomenon of economic inequality should have increased (due to the case of global recession and the covid-19 pandemic), but instead has decreased (anomalistic cases), the reason is that there are differences in the level of ownership of important resources and management capabilities, which involve: (1) potential resources human resources owned by each province (in terms of quality and quantity), (2) wealth of natural resources owned by each province, (3) ability to accumulate capital resources by each province, and (4) human resource capacity entrepreneurship; which is proven that together these four resources are capable of producing economic progress, increasing economic growth, and supporting the process of sustainable economic development in a country or region.

References


