

## THE IMPACT OF INFLATION AND OPEN UNEMPLOYMENT RATE ON INCOME INEQUALITY IN RIAU PROVINCE



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### Abstract

Income inequality is one of the factors influencing the economy of a region. The aim of this research is to examine the effect of inflation and open unemployment rate variables on income inequality. This research utilizes secondary data from the Central Statistics Agency (BPS) of Riau Province from 2014 to 2023. The research uses multiple linear regression methods. We use a quantitative approach using eviews as an analytical tool to test the hypothetical model. The research findings show that inflation and open unemployment rate have a positive and significant impact on income inequality. From the results of the determination test, this means that income inequality in Riau province can be explained by the inflation variable and the open unemployment rate with a value of 73.21%, while the remaining 26.79% is explained by variables outside the research model. Finally, based on these findings, we propose some promising research directions and implications for government policymakers to consider the level of stability of the inflation rate, and also create jobs so that the unemployment rate decreases so that income inequality also decreases.

**Keywords:** Inflation, Open Unemployment Rate, and Income Inequality.

## INTRODUCTION

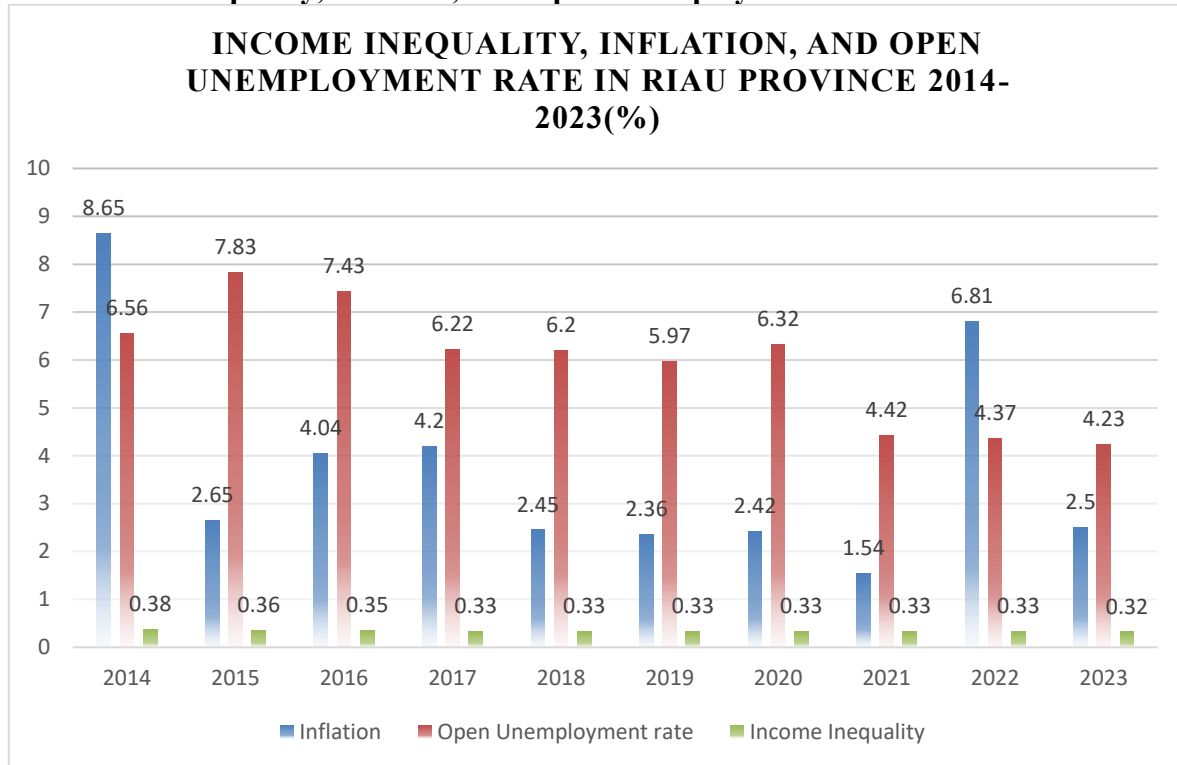
Indonesia is one of the developing countries that has not yet achieved economic stability. All countries experience inequality to some extent (Muhibbullah & Das, 2019). One of the indicators of this is the uneven distribution of income among its people (Hindun, A.S., 2019). The welfare of the population can be determined by an important factor, which is low income inequality. However, this factor is often not considered when comparing the levels of welfare and their changes. Inequality is a condition where there are significant differences in the amount of income received by individuals or groups within society. The causes of income inequality include inflation, and unemployment in a particular region. Income inequality refers to the unequal distribution of income within a country. Higher income inequality means greater income inequality in society (Milanovic, 2016). Income inequality in Riau Province can be seen from the gini ratio. Figure 1 shows that income inequality in Riau Province from 2014 to 2023 has not yet reached a low inequality figure.

Income inequality refers to the relative standard of living across the entire population, as disparities between regions are caused by differences in production factors and available resources. Income inequality is defined as the uneven distribution of income across a region. Excessive income inequality can negatively impact social and economic life and lead to conflict. Inflation is one of the factors that influences income inequality in a region, because with the increase in the price of goods and services, it affects the economy of a region, which can lead to an increase in the economy and also a decline in the economy in a region. When inflation occurs, groups with fixed or low incomes tend to face greater financial pressure compared to higher-income groups, thus widening the economic gap and reducing purchasing power among vulnerable populations.

Income inequality refers to the relative standard of living across the entire population, as disparities between regions are caused by differences in production factors and available resources (Kuncoro, 2006). Income inequality not only impacts the quality of life but also social and political stability. When income disparities widen, social dissatisfaction may arise, potentially leading to tensions between societal groups. Therefore, it is essential to understand the factors that contribute to income inequality and identify policies that can reduce these disparities, thus promoting more equitable welfare for all segments of society. This study will discuss the various factors contributing to income inequality, both economic and social, as well as their impact on regional development. Additionally, it will analyze the role of inflation, and open unemployment rate in exacerbating or mitigating income inequality in Indonesia, with a particular focus on the Riau Province.

Inflation itself is a condition where the prices of goods and services rise over a certain period due to an imbalance between demand and supply (Adu-Gyamfi, 2020). The difference in inflation in each region of Riau Province also becomes a factor contributing to income inequality between districts in the province. In addition, the unemployment rate is another factor contributing to income inequality across the regions of Riau. Open unemployment rate is also a cause of income inequality. Unemployment rate refers to the segment of the workforce that is not engaged in income-generating activities. Unemployment is not limited to those who are not employed. Unemployment refers to individuals who are classified as part of the workforce, actively seeking a job at a certain wage level, but are unable to find the job they desire. Unemployment is a condition where a person belonging to the workforce wants to get a job but has not been able to get one (Sukirno, 2010).

**Figure 1.**  
**Income Inequality, Inflation, and Open Unemployment Rate in Riau Province**



Source: Central Statistics Agency of Riau Province (2025)

Inflation in Riau Province has experienced fluctuations. From 2014 to 2023, the inflation rate has risen and fallen. The lowest inflation rate occurred in 2021 at 1.54 percent, while the highest inflation rate was in 2014 at 8.65 percent. Currently, the inflation rate has decreased from 6.81 percent in 2022 to 2.5 percent in 2023. It is hoped that the inflation rate can stabilize, as it significantly impacts income inequality. Inflation causes the price of imported goods to become cheaper, resulting in domestic demand and exports of domestic goods becoming weak and experiencing a decline. This situation can create a balance of payments deficit. The impact of the high level of inflation also has implications for the level of living and welfare of society. People who have a lot of assets will benefit from this inflation, because house and land prices rise. However, for low income people, this situation results in decreasing real income so that income inequality will increase.

The open unemployment rate from 2014 to 2023 has decreased, from 2014 to 2015, unemployment increased by 1.27 percent, with the highest unemployment rate occurring in 2015 at 7.83 percent. The lowest unemployment rate occurred in 2023 at 4.23 percent. This indicates that the growth and development of Riau Province have been quite good, as reflected in the decreasing unemployment rate, which means that employment opportunities in Riau have increased. Income inequality from 2014 to 2023 has decreased, but between 2017 and 2022, income inequality in Riau Province did not experience any significant increase or decrease. In 2023, the income inequality reached its lowest level at 0.32 percent. The inflation and unemployment rates significantly impact income inequality. As seen in

2023, the unemployment rate decreased, and the inflation was relatively low, which contributed to the reduction in income inequality. The Gini Ratio indicator, when the Gini coefficient is 0, represents perfect equality, while a value of 1 indicates complete inequality. If the Gini Index value is less than 0.3, it falls into the category of low inequality, values between 0.3 and 0.5 are categorized as moderate inequality, and values greater than 0.5 are considered high inequality. Therefore, at present, Indonesia has not yet reached a low level of inequality, because the gini ratio is still above 0.3.

## **REVIEW OF LITERATURE**

### **Inflation**

Demand-pull inflation occurs when there is an increase in aggregate demand while production is already at or near full employment. As a result, excessive demand leads to higher prices for goods and services. Cost-push inflation, on the other hand, is typically characterized by an increase in production costs (inputs) and a reduction in output. This results in higher prices for the products (outputs) being produced (Indriyani, 2016).

Moderate inflation can be an indication of healthy economic growth, but excessively high or low inflation can cause imbalances in the economy. In classical economic theory, inflation is often explained as the result of an excessive money supply, or an overabundance of money circulating in the economy, which ultimately drives up the prices of goods and services. Inflation can be triggered by various factors, including imbalances between supply and demand, loose monetary policies, or disruptions in the supply of goods and services. Therefore, a deep understanding of the causes and effects of inflation is crucial in formulating effective economic policies.

### **Open Unemployment Rate**

The high unemployment rate, a problem that must be solved because it will have implications for economic development (Franita, R., & Fuady, A. 2016). Open unemployment rate essentially refers to the loss of output (Lost Output) and the misery experienced by those who are unemployed (Human Misery). It represents a form of waste of economic resources. In addition to reducing output, unemployment also drives higher government expenditures for unemployment compensation and welfare.

The main factor causing unemployment is the lack of aggregate demand. Entrepreneurs produce goods and services with the aim of making a profit. This profit can only be realized if the entrepreneurs are able to sell the goods they produce. The higher the demand, the greater the amount of goods and services they will produce. An increase in production leads to a higher demand for labor. Therefore, there is a close relationship between the level of national income (GDP) and the use of labor; the higher the national income (GDP), the greater the demand for labor in the economy. This is why unemployment has an impact on the income inequality in a region.

### **Income Inequality**

Income inequality can be briefly defined as the difference in welfare between different income groups of the population. The World Bank describes income inequality as a broader concept than poverty, defining inequality across the entire population, not just among those living below the poverty line. Income inequality occurs when there are significant differences in the income generated by people from different income groups. Income inequality is commonly measured by a coefficient or index called the Gini ratio.

Bandyopadhyay (2017) stated that the Gini index has been widely used as a measure of inequality to measure inequality trends.

*Gini Ratio* the extent of income inequality is generally measured by an index or coefficient commonly referred to as the Gini ratio. The Gini ratio is a numerical measure of aggregate income inequality, ranging from 0 to 1. Income distribution is considered equitable if the Gini ratio is small or close to zero. On the other hand, the higher the Gini ratio or the closer it is to 1, the more unequal the income distribution (Todaro, 1994). The Gini Ratio indicator shows that if the Gini coefficient is 0, it represents perfect equality, while a value of 1 indicates absolute inequality. A Gini Index value of less than 0.3 falls into the low inequality category, a value between 0.3 and 0.5 is classified as moderate inequality, and a value greater than 0.5 is considered high inequality.

### **Correlation Inflation and Open Unemployment Rate on Income Inequality**

Inflation refers to the general tendency for the prices of goods and services to rise continuously over time. The relationship between inflation and income inequality is highly relevant, as high inflation leads to an increase in the prices of goods and services, which in turn raises the income levels in a region. However, high inflation can also have negative consequences, as rising prices may reduce demand for goods and services due to income disparities within society.

Open unemployment rate as an individual who is temporarily out of work or actively seeking employment. According to Deyshappriya (2017) and Syilviarani (2017), unemployment has a significant and positive impact on income inequality. As unemployment increases, it tends to lower wage levels. Based on this, as unemployment rises, income inequality also increases. Therefore, it can be concluded that unemployment significantly influences income inequality.

### **RESEARCH METHOD**

The data used in this study is secondary data from 2014 to 2023 (the latest update from the Central Statistics Agency of Riau Province, 2024) regarding inflation, open unemployment rates, and income inequality. The data sources for this study include the Central Statistics Agency (BPS) of Riau Province, journals, articles, and relevant literature. The data period used is from 2014 to 2023. This study adopts a quantitative approach, as quantitative research focuses on the collection and analysis of numerical data in an objective manner. The Gini ratio data is obtained from BPS.

The independent variables in this study are inflation and open unemployment rate, while the dependent variable is income inequality. In this study, the analytical method used is multiple linear regression analysis, utilizing eviews software. To determine the significance level of each regression coefficient of the independent variables, the analysis will assess the impact of inflation and open unemployment rate on income inequality in Riau Province, which can be expressed in the following functional form:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e_i$$

Where Y is income inequality,  $\alpha$  is a constant,  $\beta_1$  to 2 are regression coefficients, X1 is the inflation variable, and X2 is the open unemployment rate variable.

### Research Hypothesis

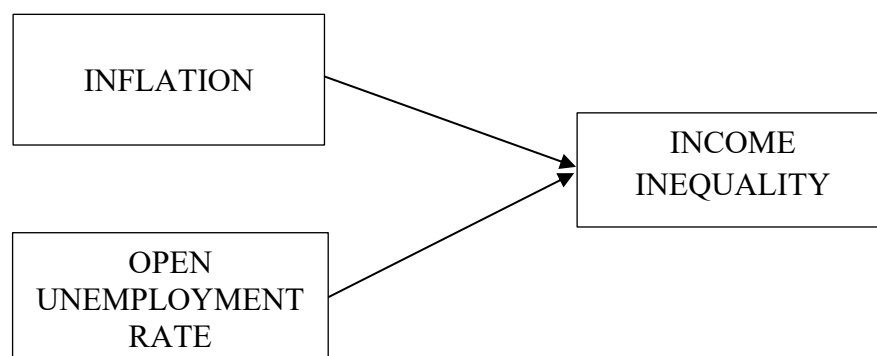
This study aims to analyze the impact of inflation and open unemployment rate on income inequality in Riau Province. Based on a review of the literature and previous studies, the hypotheses proposed in this study are as follows:

- H1: Inflation is suspected to have a positive and significant effect on income inequality in Riau Province.
- H2: Open unemployment rate is suspected to have a positive and significant effect on income inequality in Riau Province.

### Research Model

This research model describes the relationship between the independent variables (inflation and open unemployment rate) and the dependent variable (income inequality). In this model, the independent variables are assumed to influence changes in income inequality during the observed period. The direction of influence is shown through arrows connecting each independent variable to the dependent variable, indicating that the model examines whether inflation and unemployment affect income inequality either partially or simultaneously.

**Figure 2.**  
**Research Framework**



Source: Created by the author (2025)

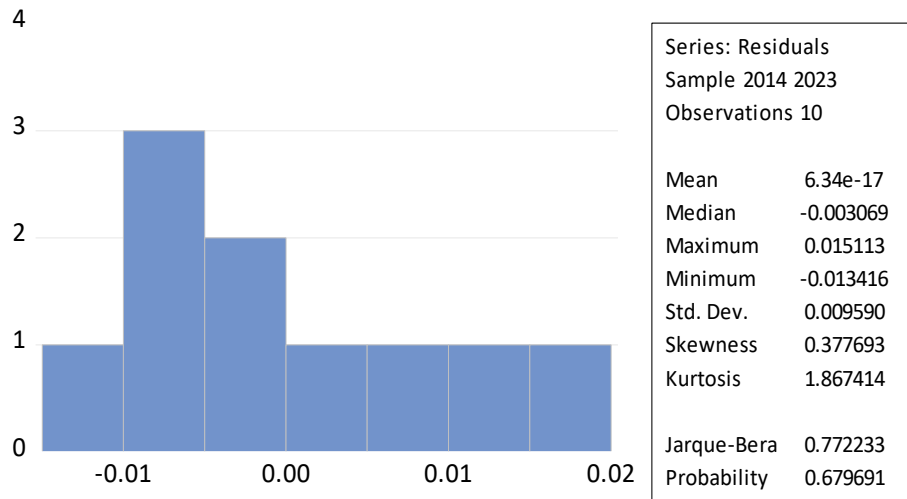
The research model diagram shows that both independent variables have a direct relationship with income inequality, which will be tested through multiple linear regression analysis. This study uses a quantitative approach. The data analysis technique used is linear regression testing to examine the effect of each variable on income inequality. The results of this study are expected to provide more in-depth input to the government regarding efforts to reduce income inequality in Riau Province.

### RESULTS AND DISCUSSION

The following are the results of research obtained from analysis using Eviews, the output of which includes the values of classical assumption tests, normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests. There are also statistical tests such as t-statistics, F-statistics, coefficient of determination, and regression coefficient estimates that describe the relationship between the variables studied.

**Normality Test**

**Figure 3.**  
**Normality Test**



Source: Data processed (2025)

The normality test is aimed at determining whether the data distribution in a study is normally distributed or vice versa with the Jarque Bera graph method. This method basically aims to measure the skewness and kurtosis of data for comparison if the data is normally distributed. From the results of the Eviews analysis above, it can be seen that the residual histogram of the model is normally distributed. Meanwhile, when viewed using the Jarque-Bera probability, it is known that the JB value is 0.679691 with an alpha of 0.05, so the regression model has a normal distribution because the JB probability is greater than alpha.

**Heterokedastisity Test**

**Table 1.**  
**Heterokedastisity Test**

Heterokedastisity Test: White			
Null Hypotesis: Homoskedasticity			
F-statistic	0.264751	Prob. F(5,4)	0.9113
Obs*R-squared	2.486504	Prob. Chi-Square(5)	0.7785
Scaled explained SS	0.528423	Prob. Chi-Square(5)	0.9910

Source: Data processed (2025)

The heteroscedasticity test is defined as a test conducted to understand and determine the pattern of variance and residual inequality. In this study, this test was conducted through several observations. The heteroscedasticity test was obtained by comparing the chi-square probability value in the r-square orb with a significance level of 0.05 using the White test. Based on the results of the White heteroscedasticity test, it can be seen that the chi-square probability value (5) in Obs \* R-square is 0.7785 > 5%, because it is greater than 5%, it is free from heteroscedasticity.

**Multicollinearity Test**

**Table 2.**  
**Multicollinearity Test**

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	0.000334	28.24127	NA
X1	2.54E-06	4.040818	1.002651
X2	8.37E-06	26.10390	1.002651

Source: Data processed (2025)

Multicollinearity testing is a test that aims to understand the relationships found and not found between dependent variables and independent variables in a study. The results above show that the Variance Inflation Factor (VIF) is less than 10. This is indicated by the inflation VIF value (X1) of 1.00261 and the open unemployment rate VIF value (X2) of 1.002651. These findings indicate that there are no signs of multicollinearity, meaning that the independent variables in this regression do not have a strong linear relationship with each other, so the classical assumption of the multicollinearity test is fulfilled and the regression analysis results are reliable.

**Autocorrelation Test**

**Table 3.**  
**Autocorrelation Test**

Statistic	Value
R-square	0.763303
Adjusted R-square	0.644955
F-statistic	6.449633
Prob(F-statistic)	0.006272
Durbin-Watson stat	1.844158

Source: Data processed (2025)

The autocorrelation test was conducted using the Durbin-Watson (DW Test) value to determine whether there was a serial relationship between the residuals in the regression model. Based on the estimation results using EViews, the Durbin-Watson value obtained was 1.844158. In general, the Durbin-Watson value ranges from 0 to 4, with a value close to 2 indicating no autocorrelation, or the model is free of autocorrelation. With a DW value of 1.844158, which is close to 2, it can be concluded that the regression model does not experience significant positive or negative autocorrelation. This indicates that the model residuals are random, making the regression model suitable for further analysis. the model is free of autocorrelation.

**T-Test Statistics**

**Table 4.**  
**T-Test Statistics**

Variable (1)	Coefisien (2)	Prob (3)
Constant	0.268062	0.0000***
Inflation	0.004654	0.0223**
Open Unemployment Rate	0.008972	0.0173**
Prob F-Statistic	0.009948****	
R-Squared	0.732126	
***p < 0.01, **p < 0.05, *p < 0.10		

Source: Data processed (2025)

**T-Test**

The analysis shows that inflation and the open unemployment rate positively and significantly affect income inequality in Riau Province. Based on the t-test, the inflation variable has a regression coefficient of 0.004654 with a probability value of 0.0223. Since the probability value is less than 0.05, the first hypothesis (H1) is accepted, meaning that the higher the inflation, the higher the income inequality. The open unemployment rate also has the same effect. The t-test results show that the open unemployment rate variable has a regression coefficient of 0.008972 with a probability value of 0.0173. Since the probability value is less than 0.05, the second hypothesis (H2) is accepted, indicating that the open unemployment rate directly affects income inequality.

**F-Test**

The F-test was conducted to determine whether the independent variables collectively had a significant effect on the dependent variable in the regression model. Based on the estimation results using EViews, the Prob (F-Statistic) value obtained was 0.009948 with a significance level of less than 0.05. This probability value indicates that the regression model as a whole is significant, so that the variables of Inflation and Open Unemployment Rate simultaneously affect the dependent variable in the study. Thus, the regression model used is suitable for further analysis because it is able to explain the relationship between the independent and dependent variables statistically.

**R-Squared**

The coefficient of determination (R-Squared) is used to measure how much the independent variable is able to explain variations in the dependent variable in the model. In addition, the R Square value of 0.732126 shows that these two variables can explain 73.21% of the variation in income inequality. On the other hand, the remaining 26.79% is influenced by other factors not included in this research model. Therefore, both independent variables simultaneously affect income inequality, and the partial test results show that both have a significant effect. Thus, to reduce income inequality, the government needs to focus more on inflation stability and reducing the open unemployment rate because these factors have been proven to have a significant positive impact.

### **The Impact of Inflation on Income Inequality**

According to the Bank of Indonesia, inflation is a continuous and comprehensive rise in the price of goods and services. Meanwhile, Sukirno (2008) defines inflation as the process of price increases that occur in an economy. Therefore, the relationship between inflation and income inequality is quite relevant, because high inflation will cause an increase in the prices of goods and services, which will lead to an increase in income in a region. Thus, the findings of this study are in line with the findings of research conducted by researchers (Balcilar et al., 2018), the results show that a positive relationship only occurs if the condition exceeds the threshold level of inflation. However, high inflation can also have a negative impact because the high prices of goods and services will reduce the demand for these goods and services due to the income differences among the people. It can be concluded that inflation is quite relevant to income inequality.

### **The Impact of Open Unemployment Rate on Income Inequality**

Test results show that unemployment has a significant positive effect on income inequality. These results indicate that the unemployment rate has a significant impact on income inequality between low-income and high-income populations. This is because higher unemployment rates result in more people being without income. Increasing unemployment due to job losses leads to reduced income, with low-skilled workers feeling the effects first, as they are the first to be impacted by job losses (Suhendra et al., 2020).

Unemployment has a significant positive effect on income inequality, indicating that many people still lack the opportunity to find work and are unproductive in their jobs, thus preventing them from earning money or salaries. Income inequality in a society will increase if someone does not have a job or source of income. The results of this study are consistent with previous research by (Mwakalila, 2022), (Asogwa et al., 2022), and (Yoertiara & Feriyanto, 2022), which found that unemployment has a significant positive impact on income inequality. From these studies, it can be concluded that unemployment has an effect on income inequality, both in the short and long term. so the government needs to be serious in addressing the unemployment problem in Indonesia by preparing policies, strategies and concrete steps to address the unemployment problem (Nurrahman, A.,2020).

### **CONCLUSION**

Based on the research results, The inflation rate has a positive and significant impact on income inequality. This is because the rise in prices makes sellers income unstable, as high prices lead to a decrease in consumer demand. The increase in inflation in Riau Province also reduces the purchasing power of certain income groups, resulting in a decline in the demand for goods and services. Consequently, producers are forced to reduce their workforce, which increases unemployment and income inequality. Unemployment has a positive and significant effect on income inequality. This is because the higher the unemployment rate, the more people there are without income. The rise in unemployment due to job losses leads to a decrease in people's earnings, with low-skilled workers feeling the effects first, as they are the most likely to lose their jobs (Suhendra et al., 2020). So the government must keep inflation stable by paying attention to the prices of goods, and also reduce the level of open unemployment by creating lots of jobs. As a result, this can contribute to income inequality in each region of Riau Province.

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