

# Analysis of the Effect of Monetary Policy and Fiscal Policy on Unemployment with Economic Growth as a Moderating Variable in Indonesia

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## ABSTRACT

This research is intended to know the influence of interest rate, money supply, and government expenditure on economic growth as moderating variables in Indonesia. This research population is Indonesia, and 20 of them were selected to be the samples for this research through the purposive sampling technique. Estimates conducted by the multiple regression analysis. The data used in this study were secondary, consisting of Interest Rate, Money Supply, and Government Expenditure to unemployment for the year 2000-2019. This research shows that Based on the partial test (t-test), the Government Expenditure has no significant effect. In contrast, the interest rate and money supply variables significantly affect the unemployment variables in Indonesia; the simultaneous test (F test), interest rate, money supply, and government expenditure have a significant effect on unemployment variables. Economic growth can moderate the relationship between interest rate, money supply, and government expenditure on unemployment.

**Keywords:** Interest Rate, Money Supply, Government Expenditure, Economic Growth and Unemployment

## INTRODUCTION

Unemployment is a complex problem because it affects and is influenced by several factors that interact with each other, following a pattern that is not always easy to understand. It has not been able to be resolved by the national government in general and local governments in particular.

Many open unemployment rates have broad social implications because those who do not work have no income. The loss of income sources opens up opportunities for residents to experience difficulties in fulfilling basic needs, which in turn can lead them to poverty. The problem is even more complicated because the higher the open unemployment rate, the greater the potential for the social vulnerability that it might cause, causing vulnerability to various crimes and social, political upheaval, poverty, and extraordinary waste (BPS, 2007).

Activities carried out to expand job opportunities are through public works projects and industrial development labor-intensive (Sedarmayanti, 2001). High levels of poverty cause low labor productivity in Indonesia, high education costs, limited employment opportunities, unaffordable health costs, and many workers whose last education level is below SMA. The theory says that the unemployment rate is also influenced by inflation, fiscal policy (government spending and taxes), and monetary policy (interest rates and money supply) set by the government in regulating the rate of economic growth (Asyulinda, 2015).

Unemployment can also be caused by changes in the structure of the economy. Based on the main employment opportunities, the agricultural sector is still the main sector that absorbs a lot of labor. In August 2015, 32.88 percent or 37.35 million

Indonesians worked in the agricultural industry. The total employment in the agricultural sector fell compared to the same period in the previous 5 years, which was 41.49 million people. Labor absorption in the trade and services sector tends to increase during the period 2010 - 2015. Meanwhile, the employment in the trade and services sector tends to increase during 2010 - 2015. This is a form of changes in the pattern of economic structure from agriculture to industry. Services. Although some sectors show high growth, it turns out that the absorption of their workforce is small. For example, the financial institutions, real estate, leasing business, and corporate services sector grew by more than 87 percent in 5 years but only absorbed 2.84 percent of total employment.

From 2008 to 2016, the number of unemployed fluctuated. Meanwhile, a high inflation rate will affect the increase in the number of unemployed (Sadono Sukirno, 2008). Unstable inflation will cause uncertainty for economic actors to make decisions because it will make it difficult for people to invest and consume, which will ultimately hamper economic growth (Badriah, 2018).

In Indonesia, fiscal and monetary policies are policies carried out by the government, aiming to reduce unemployment. (Pohan, 2008) Monetary policy is a Central Bank policy to control monetary quantities to achieve the desired economic activity development, namely high employment opportunities, stable inflation rate, the balance of payments balance, and economic growth rates. The application of monetary policy cannot be carried out separately from other macroeconomic policies.

Lack of competitive prices for domestic goods and services results in low demand for domestic products. Production to be reduced, several entrepreneurs will reduce production. Reduced production will cause a number of workers to lose their jobs. A high inflation rate can encourage the central bank to raise interest rates. This

causes contraction or negative growth in the real sector. A further impact is that unemployment is getting higher. Thus, to see the level of the economic health of a country, the two parameters in the form of inflation and the unemployment rate can be the parameters (Yehosua et al, 2019).

In 2008 inflation has increased; on the other hand, the unemployment rate shows a decrease. The same phenomenon also occurred in 2010 and 2012. Then the trade-off phenomenon occurred in 2011 but with a different pattern, namely when inflation decreased but the unemployment rate increased. This phenomenon also occurred in 2015. On the other hand, inflation is influenced by the money supply as a controller (Bank Indonesia, 2017). The money supply is used as a variable in this study to determine its impact on the unemployment rate through the importance of the relationship between the money supply and inflation.

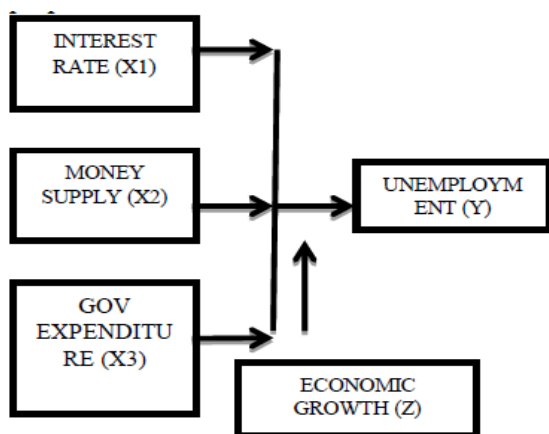
In terms of regional expenditure issued to buy goods and services, it will stimulate employment expansion (Rahchim, 2013). Government spending that is actually spent on productive activities will have a multiplier effect on the regional economy itself. When government spending is high, and an area's economic activity is increasingly complex, it is hoped that job opportunities will be higher and educated unemployment can be reduced (Rahmawati, 2017).

This study uses economic growth as a moderating variable because economic growth is one way to overcome poverty. High economic growth will increase the economy's capacity, create new jobs, increase income per capita (meaning reducing poverty and unemployment), increase demand and supply, and rotate according to the economic mechanism. In the long run, economic growth is the main motor for raising the standard of living in general. For people who enjoy it, economic growth is a powerful weapon to overcome unemployment. The rapid rate of growth made efforts to reduce unemployment more

politically acceptable. Economic growth will increase the demand for output, raise workers' productive capacity, and open up new fields. All will lead to an increase in workers. Increased income will impact increasing spending, such as spending on population, health, and skills development (poverty reduction and unemployment) (Fitriana, 2019). Monetary policy variables used in this study are interest rates and money supply. Meanwhile, the fiscal policy variables used are government spending and economic growth as moderating variables. From the description above and the thoughts above, the authors feel compelled to explore and examine the Analysis of the Influence of Monetary Policy and Fiscal Policy on Unemployment with Economic Growth as a Moderating Variable in Indonesia.

### Framework

Following the description of the background of the problem, literature review, and previous research, a conceptual research framework prepares as follows:



### Theoretical Framework and Relationship Between Variables

#### 1. The Effect of Interest Rate on Unemployment

The impact of an increase in interest rates that must be considered is the sluggish economy, which impacts decreasing employment opportunities. Declining production also affects reducing the number of employees. Unemployment occurs due to an imbalance between employment and people who need work so that only a few

have the opportunity to work (Yehosua, 2019).

#### 2. The Effect of Money Supply on Unemployment

Apart from the money supply perspective, the price level can also be explained from the influencing factors such as public production (supply) and consumption or public spending (demand). Money only "supports" and embodies the effective demand of society. In this case, the effect of new money appears when it depends on: 1) how much money is in circulation (supply) and 2) what is money being asked for and needed for (demand). Society, the business world, and the government need money as a means of payment in transactions. The amount of money used for these transactions is called active money. It is said that money is involved because the money is used to be spent, so that money "rotates" and "moves" the production process. With production that continues to grow, it will affect the level of income, and it is possible to create job opportunities which means reducing unemployment (Gilarso, 2004).

#### 3. The Effect of Government Expenditure on Unemployment

According to the Keynesian economic theory in Sadono Sukirno (2000), explaining the government variable, in this case, is that the budget is used as one of the factors driving economic growth. This government expenditure can create a multiplier effect on other sectors of the economy. The multiplier effect will be even more significant if the government spending assumption is used for productive activities. When government spending increases, it will stimulate economic activity in an area and create a multiplier effect that will ultimately reduce the number of educated unemployed in the area (Rahmawati, 2017).  
H1: Interest Rate has a positive and significant effect on unemployment.  
H2: Money Supply has a negative and significant effect on unemployment.

H3: Government Expenditure has a negative and significant effect on unemployment.

H4: Interest Rate, Money Supply, Government Expenditure have a positive and significant effect on the Unemployment

H5: Economic Growth can moderate the Interest Rate, Money Supply, and Government Expenditure on Unemployment in Indonesia

## RESEARCH METHODS

This research's data analysis method is multiple regression analysis and residual test for moderating variables. The research data were processed using the SPSS (Statistical Package for Social Science) program. Multiple regression analysis intends to predict how the dependent variable is associated with two or more independent variables. To test the moderating variable, the residual test was selected. With multiple regression equations in model I and residual test in model II. This study's population are Interest Rate, Money Supply, Government Expenditure, and Economic Growth. The sample is part or representative of the population that is the object of research. The study samples were Interest Rates, Money Supply, Government Expenditure, Economic Growth, and Unemployment in Indonesia from 2000 to 2019.

## RESULT AND DISCUSSION

### Normality test

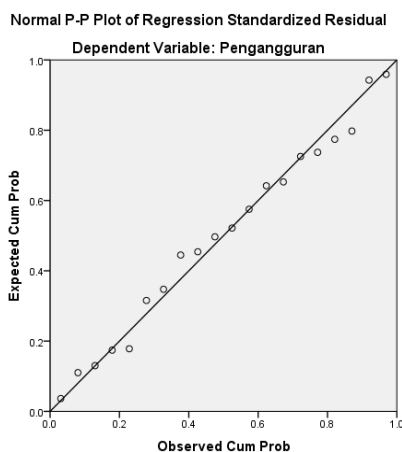


Figure 1 Normal PP Plot of Regression  
Source: Calculation Results of Eviews 10

Based on Figure 1 above, it can be seen that the normal data distribution and normality assumptions are fulfilled. This can be seen from the PP Plots value which is located around the diagonal line or does not deviate far from the diagonal line.

### Multicollinearity Test

The multicollinearity test aims to test whether the regression model found a correlation between the independent variables. In a good regression model, there should be no correlation between the independent variables. Multicollinearity testing is done by looking at the VIF between the independent variables.

Table 1 Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1		
	(Constant)	
	Interest Rate	.375
	Money Supply	.826
	Gov Exp	.411
		2.670
		1.211
		2.433

Source: Calculation Results of Eviews 10

The multicollinearity test results showed that the three independent variables of Interest Rate, Money Supply, and Government Expenditure did not occur multicollinearity. The three independent variables' tolerance value was above 0.10, and the VIF value of the three independent variables was below 10.

### Linear regression of Interest Rate, Money Supply and Government Expenditure on Unemployment in Indonesia

Table 2 Regression Results

Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	81.633	604190.833	1.509	.151
	Interest Rate	2.628	.123	21.326	.000
	Money Supply	-40.870	64448.962	-2.825	.012
	Gov Exp	-.023	.061	-.372	.715

a. Dependent Variable: Unemployment

Source: Calculation Results of Eviews 10

From the regression results above, the estimation results model can be formed as follows:

$$Y = 81,633 + 2,628 X1 - 40,870 X2 - 0,023 X3$$

### Model Interpretation

Based on the estimation model above, Based on the estimation model above, it can be explained that the effect of the independent variables, namely Interest Rate (X1), Money Supply (X2), and Government Expenditure (X3), on Unemployment in Indonesia as follows:

#### 1. Interest Rate

Interest Rate has a positive effect on unemployment in Indonesia. This is indicated by the regression coefficient X1, which is 2,628. This means that with every 1% increase in interest rates, unemployment will increase by 2,628% (ceteris paribus).

#### 2. Money Supply

Money Supply turns out to have a negative effect on unemployment in Indonesia. This is indicated by the value of the regression coefficient X2, which is equal to -40,870. This means that for every 1% increase in the amount of money in circulation, unemployment will decrease by 40.870% (ceteris paribus).

#### 3. Government Expenditure

Government expenditure has a negative effect on unemployment in Indonesia. This is indicated by the value of the regression coefficient X3, which is 0.023. This means that with every 1% increase in Government Expenditure, unemployment will decrease by 0.023% (ceteris paribus).

### Individual Regression Coefficient Testing (Statistical t Test)

#### 1. Interest Rate

For the interest rate variable, the t-value is 21.326 with a probability (significance) value of 0.000. Thus Ha is accepted, because the probability value is smaller than the value of 0.05 (0.000 < 0.05) and t-count > t-table (21.326 > 2.119). It means that it can be concluded that the interest rate variable has a significant

(significant) effect on the unemployment variable in Indonesia by testing it at the 95% (= 5%) confidence level.

#### 2. Money Supply

For the variable money supply, the t-count value is -2.825 with a probability value (significance) of 0.012. Thus Ha is accepted, because the probability value is smaller than the value of 0.05 (0.012 < 0.05) and -t-count < -t-table (-2.825 < -2.119). This means that it can be concluded that the variable money supply has a significant (significant) effect on the unemployment variable in Indonesia by testing the confidence level of 95% (= 5%).

#### 3. Government Expenditure

For the Government Expenditure variable, the t-count value is -0.372 with a probability (significance) value of 0.715. Thus Ho is accepted, because the probability value is greater than the value of 0.05 (0.715 > 0.05) and t-count > -t-table (-0.372 > -2.119). This means that it can be concluded that the Government Expenditure variable has no significant (significant) effect on the unemployment variable in Indonesia by testing at the 95% (= 5%) confidence level.

### Simultaneous Testing of Regression Coefficients (Statistical F Test)

Table 3 Anova test

Model		F	Sig.
1	Regression	396.393	.000 <sup>a</sup>
	Residual		
	Total		

Source: Calculation Results of Eviews 10

Based on the SPSS program's output, the F-count value is 396,393 with a probability (significance) value of 0,000. Thus Ha is accepted, because the value of F-count > F-table (396.393 > 3.24) and the probability value (significance) is greater than the value of 0.05 (0.000 < 0.05). This means that it can be concluded that the variable X1 (Interest Rate), variable X2 (Money Supply), and variable X3 (Government Expenditure) have a



significant (significant) effect on Y (Unemployment) at the 95% confidence level (= 5%).

### Coefficient of Determination (R<sup>2</sup>)

Table 4 Coefficient of Determination Model Summary

Model	R	R Square	Adjusted R Square
1	.993 <sup>a</sup>	.987	.984

Based on the results of the SPSS program output, it can be seen that the R-square value is 0.987, which means that the variables X1 (Interest Rate), X2 (Amount of Money Supply), and X3 (Government Expenditure) together can explain unemployment in Indonesia of 98, 7% while the remaining 1.3% is explained by new variables that are not included in the model estimation.

### Moderating Test Results (Residual Test)

Table 5 Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	1.885	.388	4.854	.000
	Unemploy	-1.943	.000	-1.663	.004

a. Dependent Variable: AbsRes\_1  
Source: Calculation Results of Eviews 10

Based on the results of the residual test in Table 5, the moderation regression equation is obtained as follows:

$$Z = 21,063 - 0,377 X1 - 0,545 X2 + 12,137 X3 \dots\dots\dots 1)$$

$$| e | = 1,885 - 1,943 Y \dots\dots\dots 2)$$

A variable is moderating if the P-Value (Sig) <0.05 and the parameter coefficient value is negative. Based on Table 5.6, the residual test results show that the significant value of 0.004 is smaller than  $\alpha = 0.05$  ( $0.004 < \alpha = 0.05$ ) and the negative coefficient value is (-1.943), it can be concluded that Economic Growth can moderate the relationship between the Interest Rate variable. Total Money Supply, and Unemployment Government Expenditures. In other words, the Economic

Growth variable is a moderating variable in this study (H5 is acceptable).

### CONCLUSION

Based on the results of research on the effect of interest rates, the amount of money in circulation, and government spending on unemployment in Indonesia, the following conclusions can be drawn:

1. From the F test results, it is concluded that the interest rate, the amount of money supply, and government expenditure during the period 2000 to 2019 have a significant simultaneous effect on unemployment in Indonesia at a significance level of 5%. Thus the research hypothesis is accepted.
2. Based on the partial test (t-test), the variable interest rate and the amount of money in circulation have a partially significant effect. In contrast, government expenditure does not have a partially significant effect on the unemployment variable in Indonesia by testing at the 95% (= 5%) confidence level.
3. Economic Growth Variables can moderate the relationship between Interest Rates, Total Money Supply, and Government Expenditures on Unemployment in Indonesia
4. The coefficient of determination (R) is 0.987, which means that the variables X1 (Interest Rate), X2 (Amount of Money Supply), and X3 (Government Expenditure) can together explain the variation of unemployment in Indonesia by 98.7%. In comparison, the rest 1.3% is explained by new variables that are not included in the model estimation.

### SUGGESTION

The suggestions in this study are as follows:

1. Based on the limitations of this study, it is advisable for further researchers who want to research unemployment to add other variables to Macroeconomic Variables such as inflation, investment, tax.

2. Researchers only use unemployment as the dependent variable, even though there may be other variables that Interest Rates can influence, Total Money Supply, Government Expenditure or there may also be other variables that are between the independent and dependent variables (intermediate variables). And if these intermediate variables are included in the research model, it may provide more comprehensive results.
3. It is necessary to instill an entrepreneurial spirit for groups of job seekers with higher education. Educated unemployed are competing for work and competing to create jobs as a solution. Therefore, job seekers who have a higher educational background should be more creative and innovative.

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