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Analysis of the Effect of Exchange Rates, Economic Growth and Minimum Wages on Unemployment with Inflation as a Moderating Variable in Indonesia

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ABSTRACT

This research is intended to know the influence of exchange rate, economic growth, and minimum wage with inflation 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 data, consisting of Exchange Rate, Economic Growth, and Minimum Wage to unemployment for the year 2000-2019. This research shows that Based on the partial test (t-test), the Minimum Wage has no significant effect. In contrast, the Exchange Rate and Economic Growth variables have a significant effect on the Inflation variables in Indonesia; the simultaneous test (F test), exchange rate, economic growth, and minimum wage have a significant effect on unemployment variables. Inflation cannot moderate the relationship between exchange rate, economic growth, and minimum wage on unemployment.

Keywords: Exchange Rate, Economic Growth, Minimum Wage, Inflation and Unemployment

INTRODUCTION

The main objective of economic development is to create economic growth and provide employment opportunities for society's welfare. Development can be successful if it can develop the Indonesian population's welfare and prosperity by overcoming development problems such as unemployment. The high level of unemployment in a country will harm the country's economy, where unemployment can be a burden in itself for the government, family, environment, etc. In general, unemployment occurs due to an imbalance between the demand and supply of labor, both in terms of quality and quantity. Every country always wants a low unemployment rate. But the reality is that there is always unemployment in the economy even though the economy is in good condition (Dianita & Idris, 2020).

The limited employment opportunities available in Indonesia are relatively high from year to year; employment is an essential indicator of community welfare and, at the same time, an indicator of the success of "education" in reducing the current poverty rate. Meanwhile, the social impact of this type of unemployment is relatively more prominent. There are many adverse effects of this, one of which is that each region's crime rate also increases due to economic encouragement. Given the complexity of this problem, efforts to solve it are not limited to education sector policies but spread to other problems in a multi-dimensional manner. The unemployment phenomenon often causes other social problems. Besides that, of course, it will create a low social productivity rate, which will reduce the level of community income later. Unemployment is a severe problem faced in the development of human resources that are currently being carried out. (Isaac, 2019).

Based on BPS data, Indonesia's highest unemployment in 2005 reached 10,932,000, but unemployment declined in subsequent years until 2015, unemployment increased again by 7,560,000. The problem of unemployment is complex to discuss and is an essential issue because it can be linked to several indicators. Economic indicators that can affect unemployment's ups and downs include the exchange rate, economic growth, minimum wages, and inflation. Economic growth shows the existence of activities in the economy that cause an increase in the production of goods and services produced by the community and is followed by an increase in the community's welfare, which is usually seen from the gross regional domestic income. The economic growth of a country or a region that continues to show improvement illustrates that the country's economy or region is developing well (Amri, 2007). Economic growth has long been used as an indicator of economic development success (Nuraini, 2017).

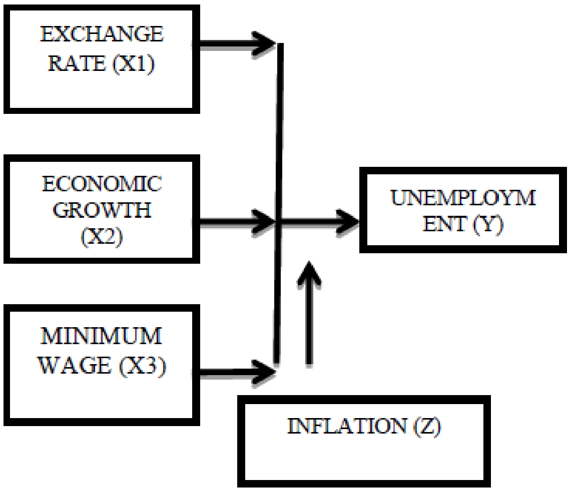
According to Muminin & Hidayat (2017), if a country or region's economic growth cannot develop properly, the worst thing can arise, one of which is unemployment. Because economic growth is not accompanied by employment opportunities and small capacity with a population that always increases every year, unemployment will increase. Economic growth that is not accompanied by inflation growth will reduce people's welfare because the income level cannot keep up with rising prices, as reflected in the rising inflation rate (Nuraini, 2017).

According to Mankiw (2007), wages are one of the factors that affect the unemployment rate. Wages are also the compensation received by a unit of labor in the amount of money paid. The determination of wages by the government in a country will influence the amount of unemployment that exists. The greater the government's wages, the more it will result in a decrease in the number of people working in the country (Kaufman & Hotckiss, 1999).

Exchange rate volatility will affect capital flows or investment and international trade. As a country that imports a lot of industrial raw materials, Indonesia experiences the impact of exchange rate instability, which can be seen from soaring production costs, causing the prices of Indonesian goods to increase. The rupiah's weakening caused the Indonesian economy to become unstable and hit by an economic crisis and confidence in the domestic currency (Triyono, 2008). With these drastic hikes in the exchange rate, it will make it difficult for producers to obtain raw materials and capital goods that have a high import content so that it will then have an impact on increasing costs to import goods for the production process so that it will affect the level of domestic prices which are a reflection of the inflation rate (Umam, 2019). Inflation and unemployment are short-term problems in the economy. Inflation has a positive relationship with unemployment because inflation decreases people's purchasing power, reduces the number of goods and services demanded by the community, and reduces the number of goods and services produced by companies. In this situation, the company will reduce the demand for labor, which impacts reducing employment opportunities so that unemployment will increase (Yacoub & Firdayanti, 2019). A.W. Philips illustrates how the distribution of the relationship between inflation and the unemployment rate is based on the assumption that inflation reflects the existence of aggregate demand. With an increase in aggregate demand, according to the demand theory, if the demand increases, the price will increase. With the increase in nutrients, the producers will increase their production capacity, increasing the number of workers. As a result of the increase in prices, the demand for labor increases, and unemployment decreases. (Prasetyo, 2009). In this study, inflation is used as a moderating variable to determine whether inflation can moderate the effect of Exchange Rate, Economic Growth, and Minimum Wages on unemployment.

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 Exchange Rate on Unemployment

The negative impact of the exchange rate on unemployment is assumed to occur because it will increase products from abroad when the rupiah exchange rate weakens. This causes people to try to find alternative products from domestic producers to increase domestic products' demand. To meet this demand, the producer will increase the number of workers. This study implies that the rupiah exchange rate control policy, the government in Indonesia is expected to prioritize strengthening the value of the rupiah or reducing unemployment (Yuni, 2020).

2. The Effect of Economic Growth on Unemployment

In theory, any increase in Indonesia's economic growth is expected to absorb labor, reducing the number of unemployed. Economic growth in Indonesia can be measured by the increase or decrease in GDP produced by a country because the indicator related to the number of unemployed is GDP. Increasing economic growth in Indonesia provides new job opportunities or provides job opportunities and is oriented towards labor-intensive activities so that economic growth reduces the number of unemployed.

3. The Effect of Minimum Wages on Unemployment

Wages are compensation received by a unit of the workforce in the form of money paid to them. When wages increase, the company will experience an increase in production costs. This condition will encourage producers to make efficient in their industry, such as rationalizing the workforce and restructuring or streamlining their companies' organization, resulting in less few workers working. In general, this will increase the number of unemployed (Lestari, 2018).

H1: Exchange Rate has a negative and significant effect on unemployment.

H2: Economic Growth has a negative and significant effect on unemployment.

H3: Minimum Wage has a positive and significant effect on unemployment.

H4: Exchange Rate, Economic Growth, Minimum Wage have a positive and significant effect on the Unemployment

H5: Inflation can moderate the Exchange Rate, Economic Growth, and Minimum Wage 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 the model I and residual test in model II.

This study's population are World Oil Prices, Exports, Investments, Exchange Rates and Economic Growth. The sample is part or representative of the population that is the object of research. The study samples were Exchange Rates, Economic Growth, Minimum Wages, Inflation, and Unemployment in Indonesia from 2000 to 2019.

RESULT AND DISCUSSION

Normality test

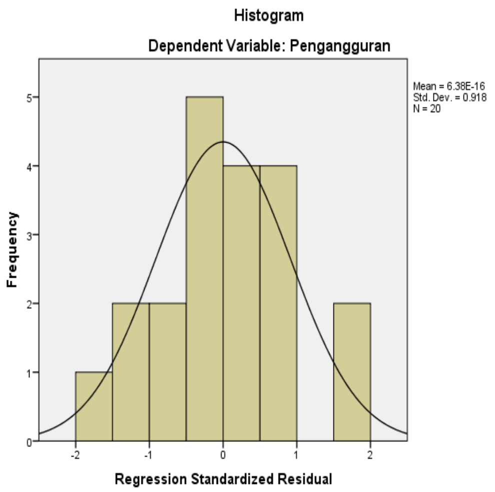


Figure 1 Histogram Graph Normality Test Results
Source: Calculation Results of Eviews 10

Based on Figure 1 above, it can be seen that the data distribution is normal and meets the normality assumption. This can be seen from the formed line, which looks to have a bell shape.

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)		
	Exc Rate	.147	6.783
	Eco Growth	.132	7.601
	Wage	.504	1.985

Source: Calculation Results of Eviews 10

The multicollinearity test results showed that the three independent variables of Exchange Rate, Wages, and Unemployment 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 Exchange Rate, Economic Growth and Minimum Wage on Unemployment in Indonesia

Table 2: Regression Results
Coefficients[a]

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	36.526	27.778	1.315	.207
	Exchange Rate	-13.616	3.454	-3.942	.001
	Eco Growth	-3.907	.849	-4.601	.000
	Wages	.036	2.970	.012	.990

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 = 36,526 - 13,616 X1 - 3,907 X2 + 0,036 X3

Model Interpretation

Based on the estimation model above, it can be explained that the effect of the independent variables, namely Exchange Rate (X1), GDP (X2) and Wages (X3) on Unemployment in Indonesia as follows:

1. Exchange Rate

The Exchange Rate has a negative effect on unemployment in Indonesia. This is indicated by the regression coefficient X1, which is 13.616. This means that for every 1% increase in Exchange Rate, unemployment will decrease by 13.616% (ceteris paribus).

2. Economic Growth

Economic growth has a negative effect on unemployment in Indonesia. This is indicated by the value of the regression coefficient X2, which is equal to -3.907. This means that with every 1% increase in economic growth, unemployment will decrease by 3.907% (ceteris paribus).

3. Minimum Wage

The Minimum Wage has a positive effect on unemployment in Indonesia. This is indicated by the value of the regression coefficient X3, which is equal to 0.036. This means that for every 1% increase in Minimum Wage, unemployment will increase by 0.036% (ceteris paribus).

Individual Regression Coefficient Testing (Statistical t Test)

1. Exchange Rate

For the Exchange Rate variable, the t-count value is 3,942 with a probability value (significance) of 0.001. Thus Ha is accepted, because the probability value is smaller than the value of 0.05 (0.001 <0.05) and the t-count <- t-table - (3,942 <-2,119). It means that it can be concluded that the Exchange Rate variable has a significant (significant) effect on the unemployment variable in Indonesia by testing it at the 95% (= 5%) confidence level.

2. Economic Growth

For the Economic Growth variable, the t-count value is -4.601 with a probability (significance) value of 0.000. Thus Ha is accepted, because the probability value is smaller than the value of 0.00 (0.000 <0.05) and -t-count <-t-table (-4,601 <-2,119). It means that it can be concluded that the Economic Growth variable has a significant (significant) effect on the unemployment variable in Indonesia by testing at the 95% (= 5%) confidence level.

3. Minimum wage

For the Minimum Wage variable, the t-count value is 0.012 with a probability (significance) value of 0.990. Thus Ho is accepted, because the probability value is greater than the value of 0.05 (0.990> 0.05) and t-count <t-table (0.012 <2.119). This means that it can be concluded that the Minimum Wage 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	7.377	.003[b]
	Residual		
	Total		

Source: Calculation Results of Eviews 10

Based on the SPSS program's output, the F-count value is 7.377 with a probability (significance) value of 0.003. Thus Ha is accepted, because the value of F-count> F-table (7.377> 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 (Exchange Rate), variable X2 (Economic Growth), and variable X3 (Minimum Wage) have a significant (significant) effect on unemployment (Y) at the 95% confidence level (= 5%).

Coefficient of Determination (R^2)

Table 4 Coefficient of Determination

Model Summary

Model	R	R Square	Adjusted R Square
1	.712[a]	.506	.414

Based on the output of the SPSS program, it can be seen that the R-square value is 0.506, which means that the variables X1 (Exchange Rate), X2 (Economic Growth), and X3 (Minimum Wage) together can provide an explanation of unemployment in Indonesia of 50, 6%. In comparison, the remaining 49.4% is explained by new variables not included in the model estimation.

Moderating Test Results (Residual Test)

Tabel 5: Coefficients[a]

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	-58.766	32.341	-1.817	.086
	Pengangguran	8.766	4.674	1.876	.077

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 = 7,884 + 12,181 X1 + 0,230 X2 – 8,670 X3 .... 1)

| e | = -58,766 + 8,766 Y .... 2)

A variable moderates 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 0.077 is greater than α = 0.05 (0.077> α = 0.05) and the positive coefficient value is (8.766), it can be concluded that inflation is not able to moderate the relationship between the Exchange Rate variable, Economic Growth, and Minimum Wages against Unemployment. In other words, the inflation variable is not a moderating variable in this study (H5 is unacceptable).

CONCLUSION

Based on the results of research on the effect of Exchange Rates, Economic Growth, and Minimum Wages on Unemployment in Indonesia, the following conclusions can be drawn:

1. From the F test results concluded that the Exchange Rate, Economic Growth, and Minimum Wages during the period 2000 to 2019 have a significant simultaneous effect on unemployment in Indonesia at the 5% significance level. Thus the research hypothesis is accepted.
2. Based on the partial test (t-test), the Exchange Rate and Economic Growth variables have a partially significant effect. In contrast, the Minimum Wage has no significant partial effect on Indonesia's unemployment variable by testing at 95% (= 5%) confidence level.
3. The inflation variable is unable to moderate the relationship between Exchange Rate, Economic Growth, and Minimum Wages on Unemployment in Indonesia
4. The coefficient of determination (R) is 0.506, which means that the variables X1 (Exchange Rate), X2 (Economic Growth), and X3 (Minimum Wage) together can explain the variation of unemployment in Indonesia by 50.6%. In contrast, the remaining 49, 4% is explained by new variables 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 wish to examine unemployment to add other variables to Macroeconomic Variables such as Exports and Imports.
2. Researchers only use unemployment as the dependent variable, even though there may be other variables that can be influenced by Exchange Rate, Economic Growth, Minimum Wages 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. The government should be able to consider policies to increase the level of minimum wages in each region. This is because the level of regional minimum wages has a negative effect on the unemployment rate in Indonesia.

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