MACROECONOMIC IMPACT ON INDONESIA'S ECONOMIC GROWTH

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ABSTRACT

This study aims to determine the effect of inflation and the rupiah exchange rate on Indonesia's economic growth. This study used a type of quantitative research. The collection of data and information obtained in this study uses secondary data published through the Central Bureau of Statistics, Bank Indonesia, Journal articles and other related research. The data period used is Indonesian data for 2018-2022 in the form of quarters (time series). The data analysis technique used in this study is to use multiple regression models with times series data using Econometric Views Software (Eviews). The results show that inflation partially has a significant effect on economic growth and the exchange rate has no significant effect on economic growth. Simultaneously, inflation and exchange rates have no significant effect on economic growth.

Keywords: Inflation, Exchange Rate, Economy.

INTRODUCTION

All countries, both developed and developing, strive to increase their economic growth. To achieve this goal, the country will implement a number of different economic policies and strategies. In addition, high economic growth indicates the level of well-being and prosperity of the country's population. The economic growth rate or strength of a country can show how the country's economy is doing. Increasing economic growth will have a positive impact on the growth of certain economic sectors that contribute to national income (Santoso, 2019). The development of a country's economic activity is called economic growth, which results in an increase in goods and services produced by society and an increase in people's prosperity in the long run. One of the indicators used to measure the success of development is the economic growth that occurs. In actual economic activity, the progress of economic growth shows physically that occurs in a country, such as the increase in the number and production of industrial goods, infrastructure development, the increase in the number of general health such as schools, hospitals, roads, the development of manufactured goods and so on (Indriyani, 2016). The data on economic growth in ASEAN countries in 2022 on the website (www.dataindonesia.id) can be seen in the following graph:
Based on Graph 1.1 above, it shows that Indonesia's economic growth in 2022 will reach 5.31% and is ranked 4th in ASEAN countries. The highest percentage rate of economic growth in ASEAN countries in 2022 is Vietnam with 8.02%, then Malaysia 7.6% and then the Philippines 7.6%. The lowest economic growth in ASEAN countries in 2022 is Brunei Darussalam which is only 1.2%.

In addition, the economic growth in Indonesia from 2018-2022 based on data from the Central Bureau of Statistics 2022 n yes movement can be seen in the following graph:

Based on Graph 1.2 above, it can be seen that Indonesia's economic growth from 2018-2022 is unstable. This can be seen by the decline in Indonesia's economic growth in 2020 (-2.07%). However, Indonesia's economic growth from 2020-2022 has increased and the largest value is in 2022, reaching 5.31%.
Economic growth can be influenced by several factors, one of which is macroeconomic factors which include inflation, interest rates, exchange rates, real GDP, and financial deepening (Putri et al., 2022). But in this study, macroeconomic factors that will be the variables of the study are inflation and exchange rates. Inflation refers to the overall increase in prices. Usually, a high inflation rate is associated with "overheated" economic conditions, which is when demand for goods and services exceeds available production capacity resulting in price increases (Maronrong and Nugraho, 2019). In the long run, the relationship between inflation and economic growth is that high inflation causes economic growth to fall so that if the inflation rate rises, the rate of economic growth falls and vice versa, if inflation falls, economic growth will gradually rise (Santoso, 2019).

The following is Indonesia's inflation rate from 2018-2022 based on Bank Indonesia 2022 data.

Based on Graph 1.3 above, it shows that during the period of 2018-2022 Indonesia's inflation rate moved unstable. Since 2018-2020 Indonesia's inflation rate has tended to decrease, but Indonesia's inflation rate has begun to increase in 2021-2022 where in 2022 Indonesia's inflation rate has increased quite high from 2021 which is 1.87% to 5.51%.

In an open economy, the exchange rate can be described as the amount of money required to acquire one unit of foreign currency. Exchange rates have an important role in the economy because they can affect other variables such as prices, interest rates, balance of payments, and international transactions. Therefore, the exchange rate is considered an important factor that needs to be considered in economic analysis (Manopo, 2017). The data on the exchange rate of the Rupiah against the Australian Dollar, Singapore Dollar and US Dollar for 2018 to 2022 based on BPS 2022 data are as follows.
The chart above shows that the rupiah exchange rate has increased every year except in 2019. By looking at Indonesia's economic growth data, it can be seen that the Indonesian economy in 2022 has increased.

Inflation and exchange rates are complex and interrelated economic factors. Based on the background description above, this topic is very relevant to the current Indonesian economic context, where the Indonesian economy is experiencing many challenges and fluctuations. Indonesia experiences significant fluctuations in inflation and exchange rates that tend to be unstable. Although many studies have been conducted on the influence of macroeconomics on economic growth in Indonesia, many of them have focused on different periods or only focus on one particular macroeconomic factor.

Research Methods

In accordance with the background and objectives of the study, the focus of this research is Indonesian data. The population referred to in this study is all quarterly time series data on inflation rates and exchange rates and economic growth during the 2018-2022 period, which is as many as 20 observations. The sample of this study used a saturated sampling method by taking all populations to be sampled. Based on sampling techniques from time series data for the quarter of 2018-2022, there are 20 samples. The data analysis technique used in this study is to use multiple regression models with data dates.

**RESEARCH RESULTS**

**Descriptive Statistical Analysis**

Descriptive Statistics has a function, namely to provide information related to the main research characteristics because descriptive statistics studies the method of collecting and presenting data concisely so that it is easy to understand. The following are the results of the descriptive analysis in this study:

<table>
<thead>
<tr>
<th></th>
<th>EG(Y)</th>
<th>INF (X1)</th>
<th>ER (X2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>0.035</td>
<td>0.0286</td>
<td>14577.1</td>
</tr>
</tbody>
</table>

Graph 1.4

**Rupiah Exchange Rate 2018-2022**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Australia</strong></td>
<td>10,211</td>
<td>9,739</td>
<td>10,771</td>
<td>10,343</td>
<td>10,58</td>
</tr>
<tr>
<td><strong>Singapura</strong></td>
<td>10,603</td>
<td>10,321</td>
<td>10,644</td>
<td>10,533</td>
<td>11,659</td>
</tr>
<tr>
<td><strong>Amerika</strong></td>
<td>14,481</td>
<td>13,901</td>
<td>14,105</td>
<td>14,269</td>
<td>15,731</td>
</tr>
</tbody>
</table>

**Source:** BPS 2023
Based on table 4.1, several things related to descriptive statistical testing can be concluded, namely:
a) Economic Growth calculated based on gross domestic income (GDP) in this study sample has an average value of 0.035 or 3.5% with a maximum value of 0.072 or 7.2% and a minimum value of -0.053 and a standard deviation of 0.0348.
b) Inflation in this study sample has an average value of 0.0286 with a maximum value of 0.06 and a minimum value of 0.013 and a standard deviation of 0.0129.

Classical Assumption Test

Normality Test

The purpose of this test is to ensure the normality of the distribution of independent variables and dependent variables in the regression model. This test uses the Jarque-Bera test, to see whether the data has been attributed normally or not provided that if the Jarque-Bera probability value > a significant value of 0.05 then the data is normally distributed and if the Jarque-Bera probability value < a significant value of 0.05 then the data is not normally distributed.

Based on Figure 4.5, the sig value is 0.200, so it can be concluded that the residual value in regression testing has fulfilled the normality aspect because the sig value is above the alpha value, which is 0.05.

Multicollinearity Test

The basis for making this test decision is that if the VIF value < 10 or the Tolerance value > 0.01, then it is stated that multicollinearity does not occur and if the VIF value > 10 or the Tolerance value < 0.01 then a multicollinearity problem occurs.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Variance</th>
<th>Uncentered VIF</th>
<th>Centered VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.032120</td>
<td>637.5649</td>
<td>NA</td>
</tr>
<tr>
<td>INF (X1)</td>
<td>0.382009</td>
<td>7.401455</td>
<td>1.199125</td>
</tr>
<tr>
<td>ER (X2)</td>
<td>1.620326</td>
<td>684.6237</td>
<td>1.199125</td>
</tr>
</tbody>
</table>

It can be seen in Table 4.2 that the inflation and exchange rate variables have a Centered VIF value of 1,199 < 10, so it can be said that there is no
multicollinearity in the research variables.

**Heteroscedasticity Test**

With a significance value (Sig) greater than 0.05 with the result that there are no symptoms of heteroscedasticity in the regression model. Conversely, if the significance value (Sig) is smaller than 0.05, then heteroscedasticity symptoms occur. The heteroscedasticity test this time uses the white test size.

<table>
<thead>
<tr>
<th>Table 4.3 Heteroscedasticity Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prob. F (5.14)</td>
</tr>
<tr>
<td>Prob. Chi-Square (5)</td>
</tr>
<tr>
<td>Prob. Chi-Square (5)</td>
</tr>
</tbody>
</table>

*Source: Output Eviews*

Judging from the results above Table 4.3, Prob Chi-Square has a value of 0.3028 > 0.05 or a probability value of more than alpha, it was decided that there is no heteroscedasticity problem.

**Autocorrelation Test**

In this study, autocorrelation test decision making can be done by looking at the value on the F prob or Chisquare prob. If the Chi-Square prob < 0.05 then there is an autocorrelation problem and vice versa, If the Chi-Square prob > 0.05 then there is no autocorrelation problem.

<table>
<thead>
<tr>
<th>Table 4.4 Autocorrelation Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prob. F (2.15)</td>
</tr>
<tr>
<td>Prob. Chi-Square (2)</td>
</tr>
</tbody>
</table>

*Source: Output Eviews*

From Table 4.4, the test results show that the value of Prob. Chi-Square 0.167 > 0.05, so it can be concluded that there is no autocorrelation problem in this model.

**Test Analysis and Interpretation of Regression Equations**

The function models used in this study are:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon \]

<table>
<thead>
<tr>
<th>Table 4.5 Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>INF</td>
</tr>
<tr>
<td>(X1)</td>
</tr>
</tbody>
</table>

*Source: Output Eviews*

Based on Table 4.5, the form of the regression equation is as follows:

\[ Y = 0.158974 + 1.506317 \text{INF} - 1.146010 \text{ER} + \epsilon \]

From the above equation can be concluded as follows:

1. The constant (\(\alpha\)) of 0.158974 means that if X1 (inflation) and X2 (exchange rate) are 0 then Y (economic growth) is worth 0.158974.

2. The regression coefficient of the independent variable of inflation is 1.506317 which has a positive influence on economic growth which means unidirectional, meaning that with every increase of 1 unit in X2 (exchange rate) it will have an impact on increasing Y (economic growth) worth 1.506317.

3. The exchange rate regression coefficient of -1.146010 which has a negative influence on economic growth which means it is not unidirectional, so with every increase of 1 unit in X1 (inflation) it will have an impact on decreasing Y (economic growth) worth 1.146010.

**Test the hypothesis**

**Statistical T Test**

The t test aims to partially see whether there is an influence of the independent variable, namely inflation and exchange rates, on the dependent variable, namely the value of economic growth. The criteria for partial influence testing are as follows:

1. If the sig value < 5%, it is concluded that there is a partial influence between the independent variable and the dependent variable.
2. If the sig value > 5%, it is concluded that there is no partial influence between the independent variable and the dependent variable.

<table>
<thead>
<tr>
<th>Table 4.6 T Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>INF (X1)</td>
</tr>
<tr>
<td>ER (X2)</td>
</tr>
</tbody>
</table>

Source: Output Eviews

Based on Table 4.6, the results of hypothesis testing can be concluded as follows:
1. The effect of inflation on economic growth shows that the calculated t value of 0.0261 < 0.05 has a significant influence on economic growth so it is concluded that hypothesis 1 (H1) is accepted.
2. The effect of the exchange rate on economic growth shows that the calculated t value of 0.3805 > 0.05 has an insignificant effect on economic growth so it is concluded that hypothesis 1 (H1) is rejected.

**Statistical F Test**

The F test is used to determine whether all independent variables present in the model have a simultaneous influence on the dependent variable. If the significance value is less than 0.05 then the independent variable has a simultaneous influence on the dependent variable.

<table>
<thead>
<tr>
<th>Tabel 4.7 F Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
</tr>
</tbody>
</table>

Source: Output Eviews processed by researchers

Based on Table 4.7 it can be seen that the F-count value is 2.974 and the significance value is 0.078 > 0.05. Therefore, it can be concluded that there is no simultaneous influence between inflation and exchange rates on economic growth in Indonesia for the 2018-2022 period.

**Coefficient of Determination R2**

The R-Square value shows the magnitude of the influence that all independent variables exert on the dependent.

<table>
<thead>
<tr>
<th>Table 4.8 R-Square Test Results</th>
</tr>
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<tbody>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
</tbody>
</table>

Based on Table 4.8, it can be seen that the Adjusted R-Square value is 0.172, meaning that 17.2% of inflation and exchange rate variables can explain economic growth variables while the remaining 82.8% is influenced by other variables outside this study, such as unemployment rate, international trade, financial stability and the occurrence of good political stability can create more conducive conditions for economic growth.

**DISCUSSION**

After multiple regression testing is carried out, the next step to answer the problems and objectives of this study is to discuss the results of the study.

**The Effect of Inflation on Economic Growth**

Based on the results of the study, it was found that inflation has a significant influence on economic growth in Indonesia for the 2018-2022 period. The effect of inflation on economic growth varies depending on interacting economic factors. The increase in production costs due to inflation will cause an increase in the price of goods and services, this affecting economic
growth (Ningsih &; Andiny, 2018). Rising inflation can affect consumer behavior and encourage panic buying to get goods that are considered essential before prices rise higher that make consumers spend their money, This creates aggregate demand and increased economic growth (Chen, Y. J., & Chang, C. T. 2013).

The results of this study are in accordance with research conducted by (Kusumastuti et al., 2022; Salim &; Fadilla, 2021) who said that inflation has a significant influence on economic growth. Increase inflation results in an increase in the price of daily necessities because the demand for goods and services is higher than production capacity, so that it can increase people's buying interest and can increase economic growth.

**The Effect of Exchange Rates on Economic Growth**

Based on the results of the study, it was found that the exchange rate did not have a significant influence on economic growth in Indonesia for the 2018-2022 period. The fluctuating movement in the exchange rate against economic growth is due to Indonesia adhering to an open economic system where the exchange rate can be influenced by fiscal policy and monetary policy if the policy is not appropriate in the face of changes in the exchange rate can have a negative impact on economic growth and the decline in the rupiah against the dollar is also caused by the relatively higher inflation rate in Indonesia around 7% compared to America (Sakir et al., 2020). Weakening exchange rates can reduce the attractiveness of foreign investment in the short term and create investment instability. Foreign investors may reduce or postpone their investments due to concerns over a decrease in the value of their investments when converted to their native currency. This can affect economic growth by reducing foreign capital flows needed for investment and business expansion (Klein, M. W., & Shambaugh, J. C., 2018).

The results of this study are also in accordance with those conducted by (Purba &; Magdalena, 2017; Winarto et al., 2021) The Effect of Exchange Rates on Exports and Their Impact on Economic Growth. The results showed that the exchange rate had no significant effect on economic growth.

**Effects of Inflation and Exchange Rate Simultaneously on Economic Growth**

The results of the research conducted show that inflation and exchange rate variables simultaneously do not have a significant effect on economic growth. Change in inflation and exchange rates do not occur simultaneously. Inflation can take longer to affect the economy, while changes in exchange rates fluctuate rapidly. This explains that economic growth, inflation, and exchange rates are influenced by various factors that are complexly interrelated. In addition to inflation and exchange rates, there are other factors such as monetary policy, fiscal policy, political stability, global market conditions, and other factors that can affect economic growth. The existence of such influence can reduce the relationship in line between inflation, exchange rates, and economic growth.
CONCLUSION

Based on the results of the analysis conducted, the following are the conclusions in this study:

1. The results showed that inflation has a significant influence on economic growth. The nature of the influence given is positive, meaning that the higher the inflation, the lower economic growth, the increasing inflation rate which results in an increase in the price of daily necessities, thereby reducing people's buying interest and increasing the unemployment rate in Indonesia as a result of job stoppages.

2. The results showed that the exchange rate did not have a significant influence on economic growth. The nature of the influence given is negative, meaning that the higher the exchange rate or exchange rate, the higher the economic growth will be. Effectively controlled exchange rate movements can reduce volatility and have a negative impact on economic growth. Indonesia's economic growth during the period was driven more by strong domestic consumption, investment, and adequate fiscal policy.

3. The results showed that inflation and exchange rates simultaneously had no significant effect on economic growth. This explains that economic growth, inflation, and exchange rates are influenced by various factors that are interrelated in a complex way, such as monetary policy, fiscal policy, political stability, global market conditions, and other factors.

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