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THE INFLUENCE OF MONEY SUPPLY, ECONOMIC GROWTH AND EXPORTS ON INFLATION IN INDONESIA

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Abstract

This study aims to determine the effect of the amount of money in circulation, economic growth, and export on inflation in Indonesia. The data used in this study is a time series from 1980-2020 obtained from the Central Bureau of Statistics and Bank Indonesia. The analytical model used in this study is the Autoregressive Distributed Lag model. The data is processed using the Eviews application. The results of the study show that in the short term, the money supply has a positive and significant effect on inflation, as well as in the long term. Economic Growth in the short and long term has a negative and significant effect on inflation, while exports have a negative and insignificant effect on inflation in the short and long term.

Keywords: *Inflation, Money Supply, Economic Growth, Export, ARDL*

INTRODUCTION

One of the economic problems that economic thinkers are concerned with is inflation, because inflation is used to measure or see economic stability in a country. One of the factors that causes important economic turmoil and is feared by the government is inflation, because it can adversely affect the production cost structure and welfare level (Putri, 2017). If an economy churns toward an unstable direction, it will cause many problems that will arise just like inflation when the economy is a major factor in a country's survival. The Indonesian economy experienced a very chaotic critical condition in the old-order period, in 1945-1965, when inflation was very high which caused government anxiety. This is due to the uncontrolled amount of currency circulating more than one (Adryamarthanino, 2021). Inflation is a general and continuous increase in prices that can be observed by observing the movement of the market and price indices as well as whether or not there is suppressioneld inflation. The classification of inflation on the basis of the initial cause of inflation is inflation, which is due to the demand for very strong goods called demand inflation and inflation due to the increase in production costs called costinflation (Boediono, 2014).

Many reasons for inflation can occur, one of which is the gap between excess aggregate demand in an economy that is not balanced with aggregate supply in that economy. The thing that developing countries such as Indonesia must avoid is the occurrence of high inflation for the sake of healthy development momentum and the spirit in business can be maintained (Perlambang, 2010). The thing to do is improve the real sector in order to overcome inflation in Indonesia. Because from the occurrence of inflation from the demand side, among other things, money circulates. The money offered to the public must be in accordance with the needs or demands of the public. If the money supply is excessive from the needs or demands of the people, it will lead to inflation.

The circulation of large amounts of money in society is one of the causes of inflation. When people's money tends to be large and excessive, inflation also tends to be high and

can cause economic paralysis, so the amount of money in circulation must always be stable. The increase in both goods and services prices within the country will encourage inflation that has an impact on the value of money to decrease, so Bank Indonesia is required to control the level of circulating money because it has a wide impact on other macro variables (Prasasti and Slamet, 2020).

Table 1.1
Inflation Data in Indonesia

Year	Inflation (%)
2016	3.02
2017	3.67
2018	3.13
2019	2.72
2020	1.68

Source: Badan Pusat Statistik, Bank Indonesia

Based on table 1.1 above, inflation that occurred in Indonesia over the last five years from 2016 to 2020 fluctuated or unstable, which in 2016 was 3.02 percent and decreased by 1.68 percent in 2020. This occurred during the Covid-19 pandemic, which led to a fall in the inflation rate in Indonesia.

Table 1.2
Data on the Money Supply in Indonesia

Year	Money Supply (Billion)
2016	5.004.976,8
2017	5.149.165,0
2018	5.760.046,2
2019	6.136.776,5
2020	6.905.939,3

Source: Badan Pusat Statistik, Bank Indonesia

Based on table 1.2 above, the amount of spending that has occurred over a five-year period, from 2016 to 2020 has increased every year, where 2016 it was 5,004,976.8 billion and it has increased to 6,905,939.3 billion in 2020. The increase in the circulation of money was due to a pandemic that occurred in the world so that the government anticipated the circulation of money so that people would not experience difficulties.

Siti Afifatul Farichah (2022) in her research shows that the variable amount of money spent has a positive and significant impact, which can be interpreted in the short-term and long-term the amount of money spent has an effect on inflation. And the significance of the variable amount of money in circulation indicates that the fluctuation of the amount of inflation is determined by the amount of money in circulation.

Table 1.3
Data Economic Growth

Year	Economic Growth (%)
2016	5.0
2017	5.1
2018	5.2

2019	5.0
2020	2.1

Source: *Badan Pusat Statistik, Bank Indonesia*

Based on Table 1.3 above, economic growth in Indonesia has also experienced a decline for five consecutive years, namely in 2016 before the 5.0-cell scale and declined to the 2.1 cell scale in 2020. This was caused by the Covid-19 pandemic which paralyzed the economy in Indonesia.

Table 1.4
Data Export in Indonesia

Year	Export (Million)
2016	145,134.0
2017	168,828.2
2018	180,012.7
2019	167,683.0
2020	163,191,8

Source: Badan Pusat Statistik

Based on Table 1.4 above, exports that have occurred for five consecutive years have fluctuated or been unstable, where in 2016 exports increased to 145,143.0 and decreased to 163,191.8 in 2020.

Referring to the research that has been conducted by Anugrah (2012), Arintoko (2011), Endri (2008), Hayati (2006), and Dwiantoro (2004) for the case study of Indonesia, obtained research results identified that several variables such as the amount of money spent on the implementation of inflation in the long run.

Export is one of the mainstays of the economic activities of the world's population which contributes to economic growth. The increase in exports also guarantees the financial stability of a country's economy. However, the increase in exports said by Bashir et al., (2011) and Shah et, al, (2014) is not only beneficial for the economy but can also increase inflationary pressure in the economy due to an increase in aggregate demand.

The inflation factor in Indonesia is also caused by external factors, bearing in mind that Indonesia is a country with an open economy that is in the midst of a world economy. With this particular situation, the implication is that the existence of economic turmoil outside the country will have an impact on the economy within the country. For Indonesia, in an effort to rebuild its economy, high inflation rates must be avoided so that a healthy and enthusiastic development momentum in the business can be maintained.

Based on the background of the problem, the author's desire arose to conduct a study entitled **"The Influence of the Money Supply, Economic Growth, and Exports on Inflation in Indonesia"**.

1. THEORETICAL BASIS

Inflation

Inflation is an inevitable economic problem in almost all world economies Greenidge & Dacota (2009). Inflation has been a tropical issue since the early 1970s when oil prices recorded high jumps. Since then, controlling the inflation rate has become a top priority for many countries, especially those with small open economies (Greenidge & Dacota, 2009). Inflation means a continuous increase in general prices in the economy and poses a serious threat to macroeconomic stability throughout the world (Bashir et al. 2011). Friedman and Schwartz (1970) in (Tafti, 2012) wrote a book that had an impact on the history of the United States of America monetary crisis saying that inflation has always existed and everywhere is a monetary phenomenon.

According to Friedman (1969) in (Tafti, 2012) as the Monetarian School believes that inflation in the country is caused by an excess amount of money circulating in the economy. Monetaris highlighted the government's budget deficit as an important factor contributing to inflation. This happens because with a budget deficit, the government feels the need to borrow or print more money to spend it. This then causes more money to circulate in the economy thus causing inflation (Ogbokor, 2004). Structuralists believe that inflation is caused by pressure on demand for structural factors and pressure on costs. This can cause changes in the real-world price of money such as wages. Wages tend to be inflexible below this can cause inflation (Ogbokor, 2004).

Money Supply

According to Sukirno (2010) regarding the money contained in the economy, it is very important to distinguish between currencies in circulation and circulating money. The currency in circulation is the total amount of money that has been issued and circulated by the Central Bank. This currency consists of two types, namely coins and paper money. In this way the currency in circulation is the same as currency.

The amount of outstanding money includes quarterly outstanding money, demand deposits and quasi money. Currency is money issued by the central bank consisting of coins and paper money. There is currency that goes into the state treasury, for example tax payments and currency that goes into the treasury of commercial banks, for example payments from people who save money at commercial banks. Demand deposits issued by commercial banks in the form of account balances in commercial banks. Quasi-money is money issued by commercial banks consisting of term deposits, savings and foreign exchange accounts owned by domestic private companies (Subagyo, 2002).

From a theoretical point of view, money can be divided into two main categories, namely narrow money and broad money. The form of money included in each distribution basically depends on the local people's condition.

Economic Growth

According to Wijono (2005), economic growth in a nutshell is a process of increasing per capita output in the long term, this research focuses on three things, namely processes, per capita output and long term. Processes describe economic development from time to time which are more dynamic in nature, per capita output relates aspects of total output (GDP) and aspects of population numbers, so that in the long term it shows the tendency of economic changes in a certain period which is driven by intellectual processes (self-gelrating). Economic growth is also interpreted in simple terms as an increase in total output (GDP) in the long term regardless of whether the increase is smaller or greater than

the rate of population growth and whether it is followed by growth in economic structure or not.

According to Sukirno (2011) economic growth is a development of activities in the economy which causes the goods and services produced in society to increase. Economic growth is an increase in real GDP or GNP.

Export

According to Tadjung (2011) that export is the import of goods from outside the territory of Indonesia into the Indonesian shipping area by following regulations that apply especially regarding labeling regulations and are carried out by individual exporters or those who have special permission from the Directorate General of Foreign Trade of the Ministry of Trade. Export, according to Sukirno in sel, as quoted by Febriyanti (2019) that Export is selling goods from within the country to outside the country where this transaction has been approved by the importer and the exporter. The importer and exporter have agreed with the terms of sale, payment system, quality and quantity. The amount of goods or services requested to be exported from one country to another is the meaning of the demand for exports.

2. RESEARCH METHODS

Research Objects and Location

The objects in this research are the number of re-billions, economic growth, exports and inflation. The amount of spending returns, economic growth and exports as independent variables, meanwhile, inflation as the dependent variable. Then the location of this research is in Indonesia.

Type and Data Source

This research uses selective data with different types of real time data taken from the 1980s to 2020 period. The collected data are derived from the official website of the Statistical Pulse Agency (BPS) and the official website of Bank Indonesia (BI). The data used in this research are data on the amount of recycled spending, economic growth data, export data and inflation data from 1980 to 2020.

Method of Collecting Data

The data collection method used to obtain selective data in this research uses a documentary study technique, which is a way of obtaining information data on various matters related to research and reviewing written reports, whether in the form of numbers or deficiencies. . In addition to written data, the researcher uses library research as a source, journal references, and intelligence related to this research.

Variable Operational Definitions

1. Inflation (Y)

Inflation can be said as a tendency to increase the price of goods and services in the end, which takes place over and over again. Data source from BPS from 1980-2020. Inflation variable as the dependent variable (Y). The unit used for this variable is percent.

2. Money Supply (X1)

The amount of money in circulation is the amount of money in circulation including currency, quasi money and demand deposits. Data source from BPS from 1980-2020. The number of repeats circulating as the independent variable (X1), the unit used in this study is billions of rupiah.

3. Economic Growth (X2)

Economic growth is one of the benchmarks used to measure the success of a country's economic development. Data source from BPS from 1980-2020. Economic growth as an independent variable (X2). The units used in this variable are percent.

4. Export (X3)

Export is selling goods from within the country to the country where this transaction has been approved by the importer and exporter, data source from BPS for 1980-2020. The export is the independent variable (X3). The units used in the export variable are millions.

Data Analysis Method

Data Analysis Method to analyze inflation in terms of money supply, economic growth and exports from 1980 to 2020 using the Autoregressive Distributed Lag (ARDL) analysis tool model. The determination of the analytical tool is carried out after testing the stationary data. The stationary test can be carried out by testing the unit root in the variable with the Philips-Perron (PP) test, the presence of a unit root will produce an equation or lancing regression model, it turns out that the data is stationary at the first differential, whereas if it is stationary at the level, then the analysis tool is suitable. used is Vector Autoregression (VAR).

The ARDL model is a combination of the AR (Auto Regressive) and DL (Distributed Lag) models. The AR model is a model that uses one or more past data from the dependent variable, while the DL model is a regression model involving present and past data from the independent variables (Gujarati & Porter, 2009).

Stationarity Test

Testing the stationarity of the data using a dynamic model is very important, the reason is to avoid lancing regression (spurious regression) in estimating a model. This stationarity test is also often referred to as the unit root test. There are several ways to do a unit root test. Among them are Augmented Dikey Fuller and Philips-Perron. Both identified the existence of a unit root as the null hypothesis. In this study, the unit root test will use the Philips-Perron (PP) method. testing using the Philips-Perron (PP) method is a development of Dickey Fuller (DF) by allowing the assumption of an error distribution (Puspita, 2017).

Optimum Lag Determination

In the ARDL analysis, the determination of the number of lags in the ARDL model is determined by the information criteria suggested by the smallest value of Final Prediction Error (FPEl), Aqaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn (HQ). The Eviews program has provided an asterisk for the lag that is determined as the optimum lag. Dynamic research on determining the optimum lag is useful to show how long a variable reacts to other variables. Besides that, determining the optimum lag is useful for eliminating autocorrelation problems in a system. In this study, determining the optimum lag using the minimum AIC criterion, namely Akaike Information Creterion (AIC).

Granger Causality Test

This causality test basically assumes that relevant information for predicting variables X and Y is only present in these two variables. To test empirically this hypothesis uses Granger causality between two or more variables. Granger causality is determined by comparing the t-statistic results with the t-table value or by looking at the probability value of the F-statistic. If the estimated t-statistic value is greater than the t-table value or the F-statistic probability value < α = 5%, then H0 is rejected, meaning that there is an influence between the two variables tested, and vice versa.

Cointegration Bound Test

The cointegration test aims to determine whether one or more variables are not stationary at the integrated data level. When non-stationary variables are combined to produce stationary variables, this integration is very important.

The cointegration concept introduced by Engle and Granger in 1987 stated that eth must be stationary at I(0) to produce long-term equilibrium. This study tests the cointegration using the Bound Testing Cointegration approach. This method is carried out by comparing the calculated F-statistic value with the upper bound crisis value (I) (0) (Nur Fadhilah, 2017).

ARDL Models (*Autoregressive Distributed Lag*)

The method to be used is the Autoregressive Distributed Lag (ARDL) approach. The ARDL model was chosen because using ARDL will be able to see the influence of Y and X from, here the general ARDL model is as follows:

$$INF_t = \alpha_0 + \alpha_1 \sum_{i=1}^{n} JUB_{t-1} + \alpha_2 \sum_{i=1}^{n} PE_{t-1} + \alpha_3 \sum_{i=1}^{n} Eks_{t-1} + \varepsilon_t$$

Information:

INF	: Inflation
JUB	: Money Supply
PE	: Economic Growth
Ekspor	: Export Amount
α	: Long run dynamic coefficient
e	: Error Standart

Model Stability Test ARDL

To test the stability of economic growth, CUSUM (Cumulative Sum of Recursive Residuals) is used. If the CUSUM plot is at a critical value of 5 percent or there are no red upper and lower boundary lines, then the estimate is considered stable, and vice versa. Besides the CUSUM Test, the CUSUM Q Test is also used.

3. RESEARCH RESULT

The Results Of The Data Stationarity Test

The stationarity test is often called the unit root test. The Philips-Perron Unit Root Test (PP) test results can be seen in the following table.

Table 4.1
Uji Unit Root Test PP

Variabel	Unit Root	PP t-statistik	Critical Value 5%	Prob PP	Information
Inflation	Level	-6.231670	-2.936942	0.0000	Stasioner
	First Diff	-35.12188	-2.938987	0.0001	Stasioner
	Second Diff	-67.28919	-2.941145	0.0001	Stasioner
JUB	Level	-3.810328	-2.941145	0.0060	stasioner
	First Diff	-3.810219	-2.945842	0.0062	Stasioner
	Second Diff	-12.59449	-2.951125	0.0000	Stasioner
PE	Level	-5.350924	-2.936942	0.0001	Stasioner
	First Diff	-9.201339	-2.938987	0.0000	Stasioner
	Second Diff	-11.74445	-2.941145	0.0000	Stasioner
Export	Level	-0.430873	-2.936942	0.8939	Not stasioner
	First Diff	-4.930258	-2.938987	0.0003	Stasioner
	Second Diff	-15.53153	-2.941145	0.0000	Stasioner

Source: Processed Data 2021

From table 4.1 of the Philips-Perron Unit Root Test it can be concluded that there are variables that are stationary at the level, first difference, or stationary at the second difference, which uses constant regression at the level of 1%, 5%, and 10%. The probability value is less than 0.05 (prob <0.05).

Optimum Lag Determination

Based on the results of the optimum lag test that has been carried out on the variables in this study, the minimum AIC value is found in the lag as can be seen in the following table:

Table 4.2
Optimum Lag Determination Result

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-291.3026	NA	66.07437	15.54224	15.71462	15.60357
1	-118.2812	300.5108*	0.017122*	7.277957*	8.139844*	7.584610*

Source: Processing Data 2022

Based on table 4.2 above, the results of determining the optimum lag in this study are found in the first lag. Where in this lag the lowest value of LR (Sequential Modifield LR Test Statistics, FPF (Final Prediction Error) is collected. Akaike Information Criterion (AIC). Schwarz Information Criterion (SC). Hannan-Quinn Information Criterion (HQ). Located in lag 1 And if it is accumulated, the highest number of stars is in lag 1 which can then be concluded that the optimum lag is in lag 1 (Mawarti, 2017).

Granger Causality Test

The Granger Causality Test is intended to determine whether there is a reciprocal relationship between variables or not. The following are the results of the Granger Causality Test in table 4.3 below:

Table 4. 3
Granger Causality Test Result

Null Hypothesis:	Obs	F-Statistic	Prob.
LOGJUB does not Granger Cause INFLASI	38	0.00371	0.9518
INFLASI does not Granger Cause LOGJUB		0.14372	0.7069
PE does not Granger Cause INFLASI	40	2.12411	0.1534
INFLASI doels not Granger Cause PE		0.05909	0.8093
LOGEKSPOR does not Granger Cause INFLASI	40	0.00641	0.9366

INFLASI does not Granger Cause LOGEKSPOR		0.25201	0.6186
PE does not Granger Cause LOGJUB	38	0.11326	0.7385
LOGJUB does not Granger Cause PE		0.13424	0.7163
LOGEKSPOR does not Granger Cause LOGJUB	38	0.21327	0.6471
LOGJUB does not Granger Cause LOGEKSPOR		5.72523	0.0222
LOGEKSPOR does not Granger Cause PE	40	0.29024	0.5933
PE does not Granger Cause LOGEKSPOR		0.08119	0.7773

Source: Processing Data 2022

Based on Table 4.3, the results of the Granger causality test can be seen that the variable Amount of Money in Circulation (JUlB) does not have a one-way relationship with Inflation, as seen from the Granger probability value which is greater than the 5% confidence level, which is equal to 0.9518 > 0.05. And also inflation does not have a unidirectional relationship to the JUB variable, it can be seen in the Granger probability value at the 5% confidence level, which is 0.7069 > 0.05.

The Economic Growth Variable (PE) does not have a unidirectional relationship to Inflation, it can be seen from the Granger probability value at the 0.05 (5%) confidence level, which is 0.1534 > 0.05 and Inflation also does not have a unidirectional relationship to the PE variable, it can be seen from the probability value granger at the confidence level of 0.05 (5%), which is 0.8093 > 0.05.

The Export variable does not have a unidirectional relationship to the Inflation variable, it can be seen from the granger probability value that is greater than the 5% confidence level, namely 0.9366 > 0.05 and the Inflation variable does not have a unidirectional relationship to the Export variable, it can be seen from the granger probability value is greater than the confidence level is 0.6186 > 0.05.

The PE variable does not have a unidirectional relationship with the JUB variable, it can be seen from the granger probability value that is greater than the 5% confidence level, namely 0.7385 > 0.05 and the JUB variable does not have a unidirectional relationship with PE, it can be seen from the granger probability value that is greater than the level 5% confidence, that is equal to 0.7163 > 0.05.

The Export variable does not have a one-way relationship with the Amount of Money in Circulation (JUB) variable, which is equal to 0.6471 > 0.05 while the Money Supply variable (JUB) has a one-way relationship with the Export variable, it can be seen from the granger probability value at the 5% confidence level, which is equal to 0.0222 < 0.05.

The Export variable does not have a one-way relationship with the Economic Growth variable, which is equal to 0.5933 > 0.05 and the Economic Growth variable does not have a one-way relationship with the Export variable. It can be seen from the Granger probability value which is greater than the 5% confidence level, which is equal to 0.7773 > 0.05.

Bound Test

In the Boulnd Test approach, by comparing the value of the F-statistic > I0 Bound. If cointegration occurs in the bound test, this study uses the Auto Regressive Distributed Lag (ARDL) model. If it is not cointegrated, it uses the VAR model. following the bound test.

Table 4. 4
Bound Test

Variabel	Nilai F-Statistik	Trust Level 5%		Conclusion
		I0 Bound	I1 Bound	
Inflasi, JUB, PE, Ekspor	5.939780	2.79	3.67	Accept Ha

Source: Processing Data 2022

Based on Table 4.4 above, the cointegration test results based on the Bound Test approach show an F-statistic value of 5.939780 which is greater than I0 which can be concluded that there is cointegration of the variables in the model being tested so that there is a short-term and long-term balance.

Estimation Model ARDL Result

Short Term Testing

Short-term processing produces processed short-term estimation results. The short-term estimation results show that inflation is significantly affected by the amount of circulation, economic growth, and exports.

Table 4. 5
Short Term Testing Result

Variable	Coefficient Std. Error	t-Statistic	Prob.
C	-20.03556 57.08966	-0.350949	0.7302
INFLASI(-1)*	-2.357419 0.438884	-5.371399	0.0001
LOGJUB(-1)	18.69692 6.320334	2.958218	0.0093
PE(-1)	-5.609962 2.552014	-2.198249	0.0430
LOGEKSPOR(-1)	-21.04984 12.41016	-1.696178	0.1092
D(INFLASI(-1))	0.717733 0.234872	3.055848	0.0075

Source: Processing Data 2022

Based on table 4.5 above, short-term test results can be formulated as follows:

Inflation = -20.03556 + 18.69692 (JUB) – 5.609962 (PE) – 21.04984 (Exports)

Based on this formulation, it can be seen that the constant value is -20.03556 which means that if the Money Supply, Economic Growth and Exports are constant in the short term then Inflation is constant at -20.03556%.

In the short term, the money supply is 18.69692 meaning that if the money supply increases by 1 percent, inflation will increase by 18.69692 percent in the following year. When the amount of money circulating in the community increases, purchasing power will also increase, but the supply is static, which in turn will increase the price of goods. The money supply has a positive and significant effect because the probability value is 0.0093 <0.05.

Then the economic growth variable is -5.609962 meaning that if economic growth increases by 1 percent in the short term, then inflation will decrease by -5.609962 percent in the following year. Economic growth has a negative and significant effect because the probability value is 0.0430 <0.05.

The export variable is -21.04984 meaning that if exports increase by 1 percent in the short term, then inflation will decrease by -21.04984 percent in the following year. Exports have a negative and insignificant effect on inflation which can be seen from the probability value of 0.1092 > 0.05.

Long Term Testing

As for the long-term processing of the variables of money supply, economic growth and exports against inflation in Indonesia, the processed long-term results are as follows.

Table 4. 6
Long Term Test Result

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGJUB	7.931100	2.108185	3.762051	0.0017
PE	-2.379705	1.034740	-2.299810	0.0353
LOGEKSPOR	-8.929188	4.844598	-1.843123	0.0839
C	-8.498941	24.29749	-0.349787	0.7311

Source: Processing Data 2022

Based on table 4.6 the results of the long-term test results using the ARDL method in the table, it can be formulated as follows.

Inflation = -8.498941 + 7.931100 JUB – 2.379705 PE – 8.929188 Export

The interpretation of the equation is that the constanta is -8.498941, meaning that if the money supply, economic growth, and exports have a fixed value or do not change in the long term, inflation will increase by -8.498941 percent in the following year.

Then the money supply variable is 7.931100, meaning that if the money supply increases by 1 percent in the long term, inflation will increase by 7.931100 percent per year. The money supply variable has a positive and significant effect on inflation where the probability value is 0.0017 <0.05. The amount of money circulating in society exceeds the limit recommended by the government and then occurs continuously for a long period of time will cause an increase in inflation. This is due to the increase in people's purchasing

power but there is no sufficient stock of goods or services, causing an increase in the price of goods or services.

Then, economic growth of -2.379705 means that if economic growth increases by 1 percent in the long term, inflation will decrease by -2.379705 percent per year. Economic growth has a negative and significant effect on inflation as seen from the probability value of 0.0353 <0.05.

Then the export variable is -8.929188 meaning that if exports increase by 1 percent in the long term, inflation will decrease by -8.929188 percent in the following year. The export variable has a negative and insignificant effect on inflation where it can be seen that the probability value is 0.0839 > 0.05.

Model Stability Tasting

In testing the stability of the model, two types can be distinguished, CUSUM (Cumulative Sum of Recursive Residual) and CUSUM Q (Cumulative Sum of Square of Recursive Residual) in testing the stability parameters each measuring the balance of the data being examined. Following are the results of the CUSUM test with inflation as the dependent variable.

Cusum

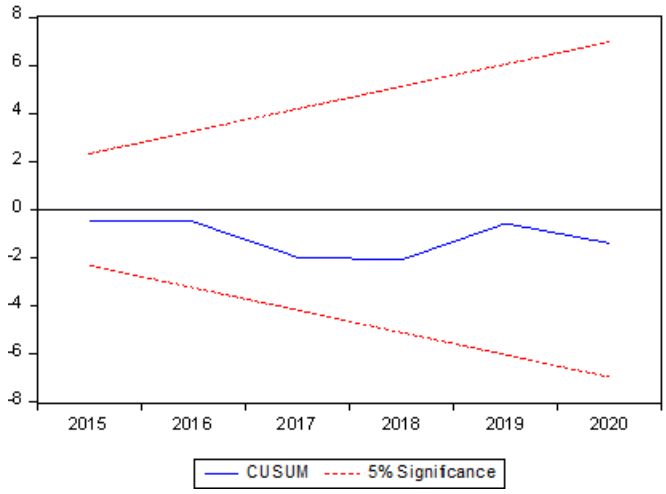

Figure 4.5
CUSUM Test Result

Based on Figure 4.5, the results of the CUSUM Test can be explained, namely the Wr quantity plot is between the boundary lines at a significant level of 5%, the plot forms a linear line.

Cusum Q Test

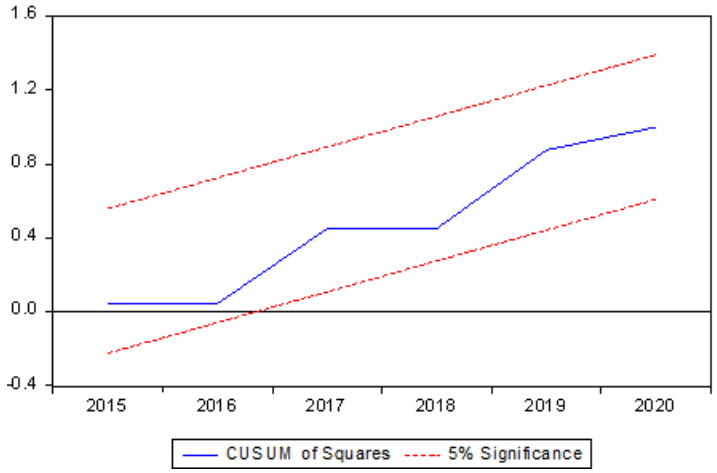

Figure 4.6
Cusum Q Test Result

Figure 4.6 the results of the CUSUM Q Test, namely the plot of the quantity of Sr is between the boundary lines at a significant level of 5%, the plot forms a linear line. Based on the results of the two model stability tests above, it can be concluded that the regression coefficients are stable.

4. DISCUSSION RESULT

Short Term Discussion

Based on the results of the tests that have been examined, it can be concluded that the money supply of 18.69692 has a positive and significant effect with a probability of 0.0093 <0.05 on inflation. This means that any increase in the money supply in the short term will cause an increase in inflation in Indonesia. However, this is not in line with the results of a short-term study from (Ratri & Munawar, 2022) entitled analysis of the effect of interest rates (BI rate), circulating volume and exports on inflation in Indonesia during the Covid-19 pandemic. In this study using the ECM method in which the money supply has a positive and insignificant effect on inflation.

Then research conducted by Nur & Alfon (2015) examined the factors that influenced inflation in Indonesia in the 2005-2014 period, where the effect of the money supply on inflation was not significant in the short term. Another study by Mahendra (2016) analyzed the effect of the money supply, SBI interest rates and the exchange rate on inflation in Indonesia, this research shows that there is an insignificant effect of the money supply on inflation.

In the variable economic growth, the results of the short-term analysis of the variable economic growth of -5.609962 have a negative and significant effect with a probability value of 0.0430 <0.05 on inflation in Indonesia. This means that any increase in economic growth in the short term will cause inflation to decrease. This is not in line with research from Nur & Alvon (2015) which states that economic growth in the short term has a positive and insignificant effect.

In the short term, the export variable with a value of -21.04984 has a negative and insignificant effect because the probability of exports to inflation is 0.1092 > 0.05. This means that any increase in exports in the short term will cause inflation to decrease. This is in line with the research of Firmansyah & Syahrizal (2018) that exports have no significant effect on inflation.

Long Term Discussion

Based on the long-term test results that have been studied, it can be concluded that the long-term money supply has a positive and significant effect on inflation. Where if the number of re-circulating increases then inflation will also increase. The largest amount of money in circulation especially in the long term will cause an increase in the price of goods in general which causes inflation. The excess circulation of money in society will lead to an increase in excessive consumption and can lead to scarcity of the goods and services that are produced.

The money supply variable has a positive effect because it has a value of 7.931100 and is significant as can be seen from the probability value of 0.0017 <0.05. This is inversely proportional to Pultri's research (2017) with the title analysis of the influence of the money supply, interest rates on Indonesian bank certificates and investment credit rates on inflation in Indonesia. Where is the result of this study that the money supply has a negative and significant effect on inflation in Indonesia. And research by Nugroho (2012) which states that the variable amount of money in circulation has a negative and significant effect on inflation in the quarters of the years of the study.

The variable economic growth has a negative effect because it can be seen from the value of -2.379705 and it is significant because the probability value is 0.0353 <0.05 for inflation in Indonesia. Where economic growth increases, inflation will decrease. This research is in line with Nur & Alvon's research (2015) which shows that economic growth has a negative and significant effect in the long term, this occurs because the government is able to encourage gross domestic product growth.

In the long term, the export variable has a negative effect because its value is -8.929188 and it is not significant because it has a probability value of 0.0839 > 0.05 to inflation. Where when exports increase, inflation will decrease in the long run. This is inversely proportional to research from Ratri & Munawar (2022), entitled Analysis of the influence of interest rates (BI rate), money supply, and exports on inflation in Indonesia during the Covid-19 period. The results of the study in the long term, exports have a positive and significant effect on inflation. And in line with the research by Maulana et al., (2020) which analyzed the effect of exports, interest rates and exchange rates on inflation in Indonesia, this research shows that there is a significant effect of exports on inflation.

5. CLOSING

Conclusion

Based on the research analysis conducted using the ARDL method, the research can be concluded as follows:

1. The money supply variable in the short term has a positive and significant effect on inflation. In the long term, the money supply has a positive and significant effect on inflation.
2. Economic growth in the short term and long term has a negative and significant effect on inflation.
3. Exports in the short and long term have a negative and insignificant effect on inflation.

Sugestion

Based on the results of data processing and with the limitations that exist in this study, there are several suggestions that can be given, namely:

1. The results of this study are far from being perfect, so it is hoped that researchers who are interested in this field are advised to take a longer period of time and add other variables, so that results are more relevant and reliable for inflation in Indonesia.
2. For the government to be able to maintain the circulation of money, increase economic growth and exports for inflation stability so that it remains stable when unwanted things happen, whether it's a pandemic or something unexpected.

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