

E-money Effect of Inflation in Indonesia

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Abstract

Technological advances have contributed to various fields including the economy that creates electronic money (e-money). The purpose of this study was to determine the effect of the variable Amount of Money Supply (JUB), money, and interest rates on inflation in Indonesia. The research approach in this study focuses on quantitative analysis using the regression method. The data used is secondary data obtained from Bank Indonesia. The population in this study is inflation, JUB, e-money, and interest rates while the samples used are inflation, JUB, transactions in the amount of electronic money in circulation, and the BI Rate in 2015M1-2020M12. The results of this study indicate that simultaneously the independent variables show that the three variables do not affect the dependent variable, namely inflation in Indonesia as seen from the probability value of F-statistics is greater than the level of significance (α). Partially, the estimation results obtained the following results: The money supply (JUB) has a positive and insignificant effect on inflation in Indonesia. The growth of E-money has a negative but not significant effect on inflation in Indonesia. The Indonesian interest rate (BI Rate) has a positive but not significant effect on inflation in Indonesia. In addition, the test using the classical

assumption test shows that the diagnostic test for normality, multicollinearity and heteroscedasticity shows that in the classical assumption test, the result is that it passes the test. Meanwhile, in the autocorrelation diagnostic test, it was declared that it did not pass the test.

Keywords:

BI Rate, E-money, JUB,
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1. Introduction

Technological developments have progressed very rapidly and of course have an effect on people's lives, both from lifestyle to affecting the economy, especially in the payment system. With the support of increasingly advanced technology, the payment system continues to develop from a cash payment system (cash based) to a non-cash payment system (non-cash).

Non-cash (non-cash) payment systems consist of various bases, ranging from card-based transactions such as ATM cards, credit cards, debit cards, and so on to electronic network-based ones such as shopee pay, go pay, link only, funds, and so on. In its development, card-based non-cash payment instruments and electronic networks have different characteristics. Electronic network-based non-cash payment systems are also known as electronic money or electronic money (e-money).

In Indonesia, electronic transactions using e-money began in 2007. In accordance with Bank Indonesia regulation No.7/52/PBI/2005 which regulates e-money. However, these regulations are integrated with the regulations for implementing card-based payment instruments (APMK) (Silitonga, 2013). In 2009 the regulation on e-money was officially separated from the regulation on card-based payment instruments and a new regulation was made in Bank Indonesia regulation No.11/12/PBI/2009 concerning electronic money (e-money).

The Bank for International Settlements (BIS) defines e-money as a stored-value or prepaid product that is owned by a person, where the value of money is stored electronically in an application media or in the form of a card which will later be used as legal tender to sellers who provide electronic payment machine. E-money transactions do not

always have to be done online or connected to the

internet because money stored on a card or chip does not require a fixed internet network.

The existence of a payment system through e- money makes it easier for people to make payment transactions. However, in addition to providing convenience in payment transactions, e-money also raises various concerns for the Indonesian economy, such as technical and security aspects, consumer protection, legal aspects, institutional aspects, and the implications of e-money on monetary policy that are of concern to Bank Indonesia. et.al, 2006). This convenience in transactions also encourages people to be more consumptive, thus encouraging more transactions in the amount of money in circulation. This is certainly related to inflation, where a very high money supply will trigger high inflation as well.

2. Literature review

2.1 Inflation

Inflation is a process of increasing prices prevailing in an economy (Sadono Sukirno, 2002). There is also an understanding of inflation according to Gilarso (2013: 200) is a general price increase, which originates from the disruption of the balance between the flow of money and the flow of goods.

According to the quantity theory of money put forward by Irving Fisher, inflation is caused by the amount of money, assuming that the velocity of money and the volume of goods traded remain constant. According to Keynes, revealing that the amount of money is not the only cause of inflation. Keynes argued that the velocity of money was not constant or changing. If there is an addition to the money supply, the transactions made by the public will increase. This phenomenon will further increase the demand for output by the public. The inability of output supply to meet the demand triggers inflation.

According to Iskandar Putong (2013) there are two main causes of inflation, namely

1. Demand Pull Inflation. This inflation arises because of demand that is not matched by conditions of increasing production levels, consequently according to the law of demand, if demand is high while supply remains constant, prices will rise. And if this

continues, it will cause prolonged inflation.

2. Cost Push Inflation. This inflation was caused by an increase in production costs triggered by an increase in input costs or production factor costs. As a result of the increase in production costs, there are two

what producers can do is to increase the price of the product with the same number of bids or the price

product increases due to a decrease in the number of production.

2.2 E-money

According to the definition issued by the Bank for International Settlement (BIS) in the Study of Electronic Money (Basel, 1996:1) "stored- value or prepaid products in which a record of the funds or value available to a consumer is stored on an electronic device in the consumer's possession". (stored-value or prepaid products where a certain amount of money value is stored in an electronic medium that is owned by someone).

According to Veithal Rifaai (2001:1367) Electronic money in question is an electronic payment instrument obtained by first depositing a certain amount of money to the issuer, either directly or through issuing agents, or by debiting an account at a bank, and the value of the money is entered. be the value of money in electronic money media, which is expressed in Rupiah, which is used to make payment transactions by directly reducing the value of money in the electronic money media.

2.3 BI Rate

BI Rate is a policy of Bank Indonesia issued every month after the meeting of members of the board of governors to regulate finances by reflecting on the economic conditions of a country. The BI Rate policy is a reference for financial institutions or the public in conducting monetary financial activities. The Bank Indonesia Rate is very important in carrying out financial and economic activities in a country. More details about the BI rate function are as follows.

1. Controlling inflation

In order to keep the inflation rate under control, it is necessary to have a policy in the form of a decrease or increase in the BI Rate. The BI Rate will increase if inflation continues to rise. So to control inflation, it is necessary to lower the BI Rate. The impact of the

reduction in the BI Rate is that there is less money in circulation and an increase in inflation slows down.

2. Controlling people's consumption passion

The BI Rate is also related to people's consumption power. When demand in society is high, it means prices have decreased. In order to control the level of public consumption, the BI Rate sets a policy of increasing the price of goods or inflation. So that the demand in the community can be controlled.

3. Influencing stock prices

The effect of the BI Rate on stock prices is comparable. If the BI Rate increases, the people's consumption power will increase. The demand for goods that continues to rise brings its own advantages for producers. As a result, the company's stock increases because profits increase.

4. Maintaining the stability of the country's economy

Daily economic activities cannot be separated from the role of the BI Rate. BI Rate policy must consider the country's economic stability.

2.4 JUB

The money supply in the narrow sense (M1) that the money supply is purchasing power that can be used directly for payments, can be expanded to include payment instruments that are "closer" to money, for example time deposits and saving deposits. on the banks.

The money supply in a broad sense (M2) includes all time deposits and savings balances in rupiah at banks regardless of the size of the deposits but does not include time deposits and savings balances in foreign currencies (Boediono, 1994:5-6).

3. Research Methods

3.1 Research Design

This study uses a type of quantitative research. Because this research describes a variable, symptom or condition that is researched as it is and uses numerical data obtained from questionnaires.

3.2 Place and Sample

3.2.1 Population

The relationship between variables in this study is a correlational relationship

with time series data during the 2015M1-2020M12 time period. The data used is secondary data that is processed using multiple linear regression analysis, the results obtained that partially JUB, e-money and interest rates have no significant effect on inflation in Indonesia while simultaneously all independent variables have no effect on inflation in Indonesia.

3.2.2 Data Types and Sources

The type of data in this study is documentary data, while the data source is obtained indirectly through intermediary media, namely Bank Indonesia.

3.2.3 Population and Sample

This study uses population inflation, JUB, e- money, and interest rates in Indonesia. The samples used include the CPI, M2, transactions in the amount of electronic money in circulation, and the BI Rate in Indonesia in 2015M1-2020M12.

3.2.4 Data Analysis Method

This study uses a quantitative descriptive approach with a research focus to determine

the effect of each independent variable on inflation in Indonesia. The data source for this research comes from Bank Indonesia with a time period of 2015; M1 to 2020; M12. The data analysis method used is multiple linear regression analysis. The dependent variable in this study is inflation and the independent variables consist of JUB, e-money, and BI Rate.

The econometric models used in this study are: $Inf = + 1JUB + 2EMONEY + 3IR + e$

Where is a constant, 1, 2, 3 is the regression coefficient, inf is inflation, JUB is the money supply, EMONEY is e-money transactions, IR is the BI Rate, and e is the error term.

Tests with regression analysis were carried out using the estimation results on the t test, F test, and R2 test. Based on Gauss-Markov, the regression model with classical assumptions has ideal and optimal properties by considering BLUE properties. The classical assumption test used is 1) normality test, 2) autocorrelation test, 3) multicollinearity test, 4) heteroscedaticity test.

7. Results and Discussion

7.1 Results

Testing the data in this study using descriptive analysis and quantitative analysis with multiple linear regression methods to determine the effect of the independent variable on the dependent variable either partially or simultaneously.

1. Regression Analysis

The estimation results show that either partially or simultaneously the independent variable has no effect on the dependent variable.

Table 1. Regression Estimation Results

Source	SS	df	MS	Number of obs	=	72
Model	.331841967	3	.110613989	F(3, 68)	=	1.25
Residual	6.04078998	68	.088835147	Prob > F	=	0.3002
				R-squared	=	0.0521
				Adj R-squared	=	0.0103
Total	6.37263194	71	.089755379	Root MSE	=	.29805

Inflasi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
JUB	2.61e-07	1.98e-07	1.32	0.192	-1.35e-07 6.56e-07
Emoney	-1.67e-09	1.01e-09	-1.66	0.102	-3.68e-09 3.41e-10
BIRate	0.431437	.0493004	0.88	0.385	-.052336 .1415211
_cons	-1.150795	1.138889	-1.01	0.316	-3.423413 1.121823

Partial influence can be seen in the probability values of each variable. The variable JUB has a positive effect with a coefficient of 2.61e-07 and is not significant with a probability value of 0.192. The e-money variable has a negative effect with a coefficient value of -1.67e-09 and is not significant with a probability value of 0.102. The BI Rate variable has a positive effect with a coefficient value of 0.4314 and is not significant with a probability value of 0.385. While the simultaneous effect can be seen in the probability value of F, which is 0.3002 where the value is greater than the significance level (0.05). So it can be concluded that simultaneously all independent variables have no significant effect on the dependent variable.

2. Classical Assumption Test

Testing the data on the variables in the study as an estimation step needs to meet the requirements in order to know whether the model is feasible or not. Therefore, it is necessary to test the classical assumptions which will be shown in Table 2.

Diagnostic Test	Test	Output	Prob .	Not e:
Normality		0.9008	0.05	*
Multicollinearity	Partial Correlation Test		Result < 0.9	*

Autocorrelation	Breusch - Godfrey test	0.0002	0.05	**
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Heteroscedasticity	White Test	0.2969	0.05	*
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*passes the classic assumption

**does not pass the classic assumption

Table 2 shows the estimation results with the classical assumption test. The classical assumption test used in this study is the normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. Normality test is done by comparing the probability value with the level of significance. If the probability value > 0.05 then the model passes the normality test. Multicollinearity test is done by comparing the probability values. If the probability value < 0.9 then the data used passes the multicollinearity test. The autocorrelation test was performed using the Breusch-Godfrey method. If the probability value is > 0.05, then the data passes the autocorrelation test. In the research conducted, the probability value <0.05 so that it did not pass the autocorrelation test. Heteroscedasticity testing was carried out using the White method, by comparing the probability values. If the probability value is > 0.05, then the data does not experience heteroscedasticity problems.

Based on Table 2, the results of the classical assumption test show that this study is normally distributed and has been free from the problems of multicollinearity and heteroscedasticity.

7.2 Discussion

The results of the regression analysis have revealed the relationship between JUB, e-money, and the BI Rate on inflation in Indonesia. Based on these results, it shows that partially the three independent variables show different results. The JUB and BI Rate variables have a positive effect, while the e-money variable has a negative effect on inflation in Indonesia. However, the three independent variables indicate that JUB, e-money, and the BI Rate are not significant to inflation in Indonesia. Simultaneously or together, it shows that the three variables have no significant effect on inflation in Indonesia.

There are differences in the results of this study with research conducted by Zunaitin et al (2017). Research conducted by Zunaitin et al (2017) revealed that JUB had a negative and insignificant effect, while the e-money variable had a positive but not significant effect. The BI Rate variable has a positive and significant effect. These results are very different from this study.

8. Conclusion

Simultaneously the independent variables show that the three variables do not affect the dependent variable, namely inflation in Indonesia as seen from the probability value of F-statistics is greater than the level of significance (α). Partially, the estimation results obtained the following results: The money supply (JUB) has a positive and insignificant effect on inflation in Indonesia. The growth of E-money has a negative but not significant effect on inflation in Indonesia. The Indonesian interest rate (BI Rate) has a positive but not significant effect on inflation in Indonesia. In addition, the test using the classical assumption test shows that the diagnostic test for normality, multicollinearity and heteroscedasticity shows that in the classical assumption test, the result is that it passes the test. Meanwhile, in the autocorrelation diagnostic test, it was declared that it did not pass the test.

9. Recommendation

With an increase in transactions using e-money, it will be able to reduce price increases because it will reduce the amount of cash in circulation. With the decline in demand for cash, economic growth will also be better.

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