Analysis Of The Influence Of Monetary Variables On Economic Growth In Indonesia

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Article Info

Article history:

Received : 04 Agustus 2020
Revised : 10 November 2020
Accepted : 15 November 2020

Keywords:

Inflation, Exchange Rates, Interest Rates, Money Supply

Abstract (Bahasa Inggris)

The development of the Indonesian economy is influenced by government policies, especially policies in the fiscal and monetary sectors, namely those concerning government spending, both routine and development expenditures, the money supply and also tax policies. The type of data used in this research is secondary data in the form of quarterly time series data for the period 2015 to 2022. The data source is obtained from publications of official state institutions such as Bank Indonesia (BI) and the Central Bureau of Statistics (BPS). The independent variables in this study are variables related to monetary policy transmission, namely Interest Rates (IR), Exchange Rates (NT), Money Supply (JUB), and Inflation (INF). While the dependent variable is economic growth (GDP at market prices). The analytical method used in this study is the Vector Error Correction Model (VECM) method assisted by E-views 10. The results show that inflation, the exchange rate and the BI Rate have a positive and significant effect on economic growth, while the money supply has no significant effect on economic growth. The short-term results show that inflation and the exchange rate have a positive and significant effect on economic growth, while the money supply and the BI Rate have no significant effect on economic growth in Indonesia for the 2015-2022 period.

Abstrak (Bahasa Indonesia)

Perkembangan perekonomian Indonesia dipengaruhi oleh kebijakan pemerintah khususnya kebijakan di bidang fiskal dan moneter yaitu yang menyangkut pengeluaran pemerintah, baik belanja rutin maupun pembangunan, jumlah uang beredar dan juga kebijakan perpajakan. Jenis data yang digunakan dalam penelitian ini adalah data sekunder berupa data time series triwulanan periode 2015 hingga 2022. Sumber data diperoleh dari publikasi lembaga resmi negara seperti Bank Indonesia (BI) dan Badan Pusat Statistik. (BPS). Variabel independen dalam penelitian ini adalah variabel yang berhubungan dengan transmisi kebijakan moneter yaitu Suku Bunga (IR), Nilai Tukar (NT), Jumlah Uang Beredar (JUB), dan Inflasi (INF). Sedangkan variabel terikatnya adalah pertumbuhan ekonomi (PDB atas harga pasar). Metode analisis yang digunakan dalam penelitian ini adalah metode Vector Error Correction Model (VECM) yang dibantu dengan E-views 10. Hasil penelitian menunjukkan bahwa inflasi, nilai tukar dan BI Rate berpengaruh positif dan signifikan terhadap pertumbuhan ekonomi, sedangkan uang pasokan tidak berpengaruh signifikan terhadap pertumbuhan ekonomi. Hasil jangka pendek menunjukkan bahwa inflasi dan nilai tukar berpengaruh positif dan signifikan terhadap pertumbuhan ekonomi, sedangkan jumlah uang beredar dan BI Rate tidak berpengaruh signifikan terhadap pertumbuhan ekonomi di Indonesia periode 2015-2022.

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1. INTRODUCTION

Economic growth is economic development with increased goods and services produced which can increase prosperity for the community (Sukirno, 2010) . Economic growth can be used as one of the macro-economic indicators that show the level of welfare of a country's people. Not least for developing countries like Indonesia, economic growth has always been the center of attention to see the level of the country's economy. To achieve a high and stable economic level is not easy, it must be followed by the ability of macro-economic variables to overcome every problem (Linda Seprillina, 2013) .

The development of the Indonesian economy is influenced by government policies, especially policies in the fiscal and monetary sectors, namely those concerning government spending, both routine and development expenditures, the money supply and also tax policies. Government policy in the monetary sector also depends on economic conditions, where monetary policy differs during conditions before the economic crisis and after the economic crisis occurred. At the beginning of 2015, Indonesia was hit by a downturn in economic conditions. The decline in Indonesia's economic condition is illustrated by the inflation rate which reached 6.38 percent , the weakening of the rupiah exchange rate against the dollar so that it once reached Rp . 9.5 75.00 per dollar, and the high rate in December weakened economic growth (Bank Indonesia, 2018) .

The government's policy was taken to restore economic stability so that the rupiah exchange rate strengthened and showed stability in recent years. Some of these advances cannot be separated from the implementation of monetary policy which is supported by improvements on the micro side and improvements in banks' lending to the real sector, although growth has not been as expected. High economic growth and a sustainable process are key conditions for sustainable economic development. This can be obtained through increasing aggregate output (goods and services) or Gross Domestic Product (GDP) every year. So in a macro sense, economic growth is the addition of GDP which also means national income (Tambunan, 2001).

The government also uses monetary policy to maintain economic stability. To reduce instability in the economy, the government through the central bank will carry out monetary policy. According to (Muana Nanga, 2005) the government's monetary policy is by controlling interest rates *and* the money *supply*. This policy is to influence the development of the money supply, interest rates, lending rates, and exchange rates which are monetary variables in achieving the desired goals, namely economic growth, employment provision, price stability, and balance of payments balance (Muhammad Natsir, 2014).

The role of banking is very large in driving the economic growth of a country. The bank itself is a part of the sector that drives the country's economic activities. Almost all business factors that are carried out really need the role of the bank which is used as a cooperation team in conducting financial transactions. Apart from that, it has an impact on economic conditions in Indonesia, both macro and monetary, which in its development are controlled by the central bank which has a very important role in the absorption in society by banks.

From the monetary side, the phenomenon of inflation is a problem of classical thought in economic conditions that have a profound economic impact on people's lives (William A.McEachern, 2000) .Theoretically, interest rates affect the amount of money in circulation. Assuming people save their money in the bank. The higher the interest rate, the more it encourages people's motives to save their money in the bank so that the money supply decreases and inflation decreases. On the other hand, the lower the interest rate, the more the money supply will be pushed, thereby pushing the inflation rate higher. (Keynes, 2017). The fact is that interest rates tend to be low from 2015 to 2022, while inflation tends to decrease and the money supply tends to increase from 2015 to 2022.

Operationally, monetary control is carried out by optimizing available monetary instruments, in particular through open market operations, namely the auction mechanism for SBIs with a term of one to three months. This effort was also supported by the absorption of liquidity through rupiah intervention by Bank Indonesia to keep base money within the set target. The relatively large amount of excess liquidity is in line with the banking intermediation function that has not yet recovered. Monetary control efforts through monetary instruments have implications for an increase in SBI interest rates.

A country's economic activities are never separated from money payment activities. Money payment traffic means the amount of money in circulation. The money supply will affect economic activity in various sectors. According to Heaven An excessive increase in the money supply can push up prices (high inflation) beyond the expected level so that in the long run it can disrupt economic growth. Conversely, if the money supply is very low, an economic downturn will occur. If this continues, the prosperity of society as a whole will in turn decrease. Management of the money supply must always be done carefully by considering the effects that will occur. A high rate of growth in the money supply in a sustainable manner will result in a high rate of inflation and a low rate of growth in the money supply will in turn result in a low rate of inflation. Furthermore, the statement that inflation is a monetary phenomenon implies that the high inflation rate will

not continue if it is not accompanied by a high growth rate of money supply (Theodores Manuela Langi, 2014).

Much research has been done on monetary policy on economic growth before, but this research is important because it has a very broad impact on a country's economy. Previous research has shown that the SBI interest rate and money supply variables have a negative and significant impact on economic growth (Prihatin et al., 2019) . Other research shows that the exchange rate and money supply variables have a negative effect on economic growth, while the inflation variable has a significant positive effect (Indriani Julia Putri, 2020) .

Based on these conditions, the authors conducted research by analyzing the effect of monetary policy on economic growth in Indonesia for the 2015-2022 period, with monetary variables including SBI interest rates, investment, foreign exchange rates, and inflation.

2. RESEARCH METHOD

Bagian metode menggambarkan langkah-langkah yang dilalui dalam mengeksekusi penelitian/kajian. Oleh karena itu, perlu ditampilkan secara detail kepada pembaca (reader) mengapa metode yang digunakan reliabel dan valid dalam menyajikan temuan penelitian/kajian. Bagian metode penelitian harus dapat menjelaskan metode penelitian yang digunakan, termasuk bagaimana prosedur pelaksanaannya, penjelasan alat, bahan, media atau instrumen yang digunakan, penjelasan rancangan penelitian, populasi dan sampel (sasaran penelitian), teknik pengumpulan data, pengembangan instrumen, dan teknik analisis data. Penulisan sub judul pada metode hendaknya dimasukkan ke dalam paragraf bukan bullets, atau numbering.

Untuk penelitian kualitatif seperti penelitian tindakan kelas, studi kasus, dan lain-lain, perlu ditambahkan kehadiran peneliti, subyek penelitian, informan yang ikut membantu beserta cara-cara menggali data-data penelitian, lokasi dan lama penelitian serta uraian mengenai pengecekan keabsahan hasil penelitian.

3. RESULT AND DISCUSSION

The type of data used in this research is secondary data in the form of quarterly time series data for

Stationarity Test

The unit root test aims to observe whether certain coefficients of the estimated model have a value of one or not. If not, then it is necessary to do the differentiation until the time series data used becomes stationary.

Table 1. Stationary test results

Variable	ADF t-Statistics	McKinnon Critical Value 5 Percent	Prob	Information
Economic growth	-6.871395	-2.976263	0.0000	stationary
Inflation	-8.423254	-2.971853	0.0000	stationary
Exchange rate	-3.504266	-2.998064	0.0000	stationary
JUB	-10.11431	-2.976263	0.0000	stationary
BI Rate	-7.488353	-2.967767	0.0000	stationary

Source: Processed Data

From the table above it can be seen that all the variables used in this study were stationary at the *second difference level.* This can be seen in each variable, namely.

The economic growth variable at the *second difference level* shows that the ADF t-statistic value is smaller than the *Mc Kinnon Value of* 5 percent, namely -6.871395 < -2.976263, which means that H_0 is rejected and H_1 is accepted.

The inflation variable at the *second difference level* shows that the ADF t-statistic is smaller than the *Mc Kinnon Value of* 5 percent -8.423254 < -2.971853, which means that H_0 is rejected and H_1 is accepted. The exchange rate variable at the *second difference level* shows that the ADF t-statistic value is smaller than the 5 percent *Mc Kinnon Vallue value -3.504266 < --2.998064, which means that* H_0 is rejected and H_1 is accepted.

The JUB variable at the *second difference level* shows that the ADF t-statistic value is smaller than the *Mc Kinnon Vallue value* of 5 percent -10.11431 < -2.976263, which means that H_0 is rejected and H_1 is accepted.

The BI rate variable at the *second difference level* shows that the ADF t-statistic value is smaller than the 5 percent *Mc Kinnon Value* -7.488353 < -2.967767, which means that H_0 is rejected and H_1 is accepted.

Grenger Causality Test

Table 2. The results of the Grenger Causality Test

Null Hypothesis:	Obs	lag 1	
		F-Statistics	Prob
INFLATION does not Granger Cause GROWTH_ECONOMY	31	2.87727	0.1009
GROWTH_ECONOMY does not Granger Cause INFLATION		0.16335	0.6892
VALUE_TUKAR does not Granger Cause GROWTH_EKONOM	31	0.69396	0.4119
PERTUMBUHAN_EKONOMI does not Granger Cause VALUE_EXCHANGE		1.17405	0.2878
JUB does not Granger Cause GROWTH_ECONOMY	31	0.69396	0.4119
PERTUMBUHAN_EKONOMI does not Granger Cause JUB		1.17405	0.2878
BI_RATE does not Granger Cause GROWTH_ECONOMY	31	4.19385	0.0501
PERTUMBUHAN_EKONOMI does not Granger Cause BI_RATE		0.88444	0.3550

Source: Processed Data

Cointegration Test

Table 3. Cointegration Test Results

Hypothesized		trace	0.05	
No. of CE(s)	Eigenvalue	Statistics	Critical Values	Prob.**
None *	0.875854	168.6869	69.81889	0.0000
At most 1 *	0.749088	110.2706	47.85613	0.0000
At most 2 *	0.707090	71.55639	29.79707	0.0000
At most 3 *	0.537587	37.17544	15.49471	0.0000
At most 4 *	0.426730	15.57915	3.841466	0.0001

Source: Processed Data

Cointegration test results show that there is no cointegration when calculated based on the value of *the Trace Statistics > Critical Value.*

VECM Stability Test

From the results above, it can be explained that the model used is stable. This can be seen from the modulus range with an average value of less than one.

Table 4. Stability Test

roots	Modulus
-0.796703	0.796703
-0.653630 - 0.239626i	0.696170
-0.653630 + 0.239626i	0.696170
-0.564935	0.564935
-0.086057	0.086057

No root lies outside the unit circle.
VAR satisfies the stability condition.

Source: Processed Data

VECM Test

Table 5. Long Term VECM *(Vector Error Correction Model)* Estimation Results

Variable	**Coefficient**	**t-Partial Statistics**
Inflation (-1)	0.69525	4.59703
Exchange Rate (-1)	0.20697	3.61039
JUB (-1)	4.07358	0.26638
BI Rate (-1)	2.16715	3.27181

Source: Processed Data

The long-term VECM estimation results above, it can be explained that the inflation variable at *lag* 1 has a positive and significant effect on economic growth of 4.59 percent. The results of the partial t-statistical analysis for the inflation variable at *lag* 1 are 4.59703 > 1.70329, which means that $H0_{is}$ rejected and $H1_{is}$ accepted. Then the inflation variable has a positive and significant effect on economic growth in the long run.

The long-term VECM estimation results show that the exchange rate variable has a positive and significant effect on economic growth, namely 3.61 percent. The results of the partial t-statistical analysis of the exchange rate variable at *lag* 1 are 3.61039 > 1.70329, which means that $H0_{is}$ rejected and $H1_{is}$ accepted. Then the exchange rate variable has a positive and significant effect on economic growth in the long term.

The long-term VECM estimation results show that the JUB variable has no effect on economic growth. The results of the partial t-statistical analysis of the JUB variable in *lag* 1 are 0.26638 <1.70329, which means that H_0 is accepted and H_1 is rejected. So the exchange rate variable has no effect on economic growth in the long run.

The long-term VECM estimation results show that the BI rate variable has a positive and significant effect on economic growth, namely 3.27 percent. The results of the partial t-statistical analysis of the exchange rate variable at *lag* 1 are 3.27181 > 1.70329, which means that $H0_{is}$ rejected and $H1_{is}$ accepted. Then the BI rate variable has a positive and significant effect on economic growth in the long term.

Table 6. Short Term VECM (Vector Error Correction Model) Estimation Results

Variable	**Coefficient**	**t-Partial Statistics**
Inflation (-1),2)	0.96507	2.88963
Exchange Rate (-1),2)	0.24819	3.11309
JUB (-1),2)	2.61815	0.39176
BI Rate (-1),2)	4.55739	0.60934

Source: Processed Data

The results of the VECM estimation in the short term above, it can be explained that the inflation variable at *lag* 1 has a positive and significant effect on economic growth of 2.88 percent. The results of the

partial t-statistical analysis for the inflation variable at *lag* 1 are 2.88963 > 1.70329, which means that H_0 is rejected and H_1 is accepted. Then the inflation variable has a positive and significant effect on economic growth in the short term.

The results of the VECM estimation in the short term above, it can be explained that the exchange rate variable at *lag* 1 has a positive and significant effect on economic growth of 3.11 percent. The results of the partial t-statistical analysis of the inflation variable at *lag* 1 are 3.11309 > 1.70329, which means that $H0_{is}$ rejected and $H1_{is}$ accepted. Then the exchange rate variable has a positive and significant effect on economic growth in the short term.

The long-term VECM estimation results show that the JUB variable has no effect on economic growth. The results of the partial t-statistical analysis of the JUB variable in *lag* 1 are 0.26638 <1.70329, which means that H_0 is accepted and H_1 is rejected. So the JUB variable has no effect on economic growth in the short term.

The long-term VECM estimation results show that the BI rate variable has no effect on economic growth. The results of the partial t-statistical analysis for the JUB variable in *lag* 1 are 0.60934 <1.70329, which means that H_0 is accepted and H_1 is rejected. So the BI rate variable has no effect on economic growth in the short term

4. CONCULSIONS AND SUGEESTIONS / RECOMMENDATIONS

4.1 Conclusions

Based on data analysis, in the long run it can be concluded that inflation, the exchange rate and the BI Rate have a positive and significant effect on economic growth in Indonesia for the 2015-2022 period, while the money supply has no significant effect on economic growth in Indonesia for the 2015-2022 period. Data analysis in the short term can be concluded that inflation and the exchange rate have a positive and significant effect on economic growth in Indonesia for the 2015-2022 period, while the money supply and the BI Rate have no significant effect on economic growth in Indonesia for the 2015-2022 period.

4.2 Recommendations

The author's suggestions or recommendations are written in this section. If there is none, then part IV, simply write with a conclusion

5. ACKNOWLEDMENTS

If any, acknowledgment can be stated here. This section displays authors' appreciation to sponsors, fund donors, resource persons, or parties who have an important role in conducting research.

Ucapan terimakasih sifatnya pilihan. Silahkan disesuiakan sesuai kebutuhan publikasi.

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