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The Effect of Money Supply and Interest Rates on the Value of Inflation in North Sumatra

Muhammad Arief Tirtana[1], Selviana Megawati Sipayung[2], Dede Ruslan[3]
Raina Linda Sari[4], Ahmad Rizki Harahap[5], Tri Martial[6]

[1,2,4] Fakultas Ekonomi dan Bisnis, Universitas Sumatera Utara, Jl Prof T. M Hanafiah, SH Kampus USU, Kota Medan, 20155.
[3] Fakultas Ekonomi, Universitas Negeri Medan, Jl Willem Iskandar/ Pasar V, Kota Medan, 20221.
[5]Fakultas Ekonomi, Universitas Deli Sumatera, Jl. AH Nasution No.11 CDE, Kota Medan, 20143.
[6] Fakultas Pertanian, Universitas Medan Area, Jl. Kolam No.1 Medan Estate, Medan, 20223.
[1]tirtanaarief2@gmail.com, [2]Selvianamegawati223@gmail.com, [3]drasruslan@unimed.ac.id,
[4]raina.linda@usu.ac.id, [5]ahmadrizkiharahap@gmail.com, [6]trimartial@gmail.com

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ABSTRACT

Inflation is an increase in the price of an item that occurs continuously. This study aims to determine the effect of money supply and interest rates on inflation in Indonesia for the period 2016-2022. The type of data in this study is secondary data obtained from the Central Bureau of Statistics. Based on the results of hypothesis testing with the Multiple linear Regression Model shows that the money supply variable has a positive and insignificant effect on the inflation rate in Indonesia, while the interest rate variable has a positive and significant effect on inflation as indicated by a probability value of 0.0046 smaller than alpha 0.005. Related to the results of this can be due to the policies and strategies implemented by the government the government is still in a less effective condition to suppress existing inflation, so the government should be more relevant in making policies so that inflation does not continue to decline and even become a deficit that has an impact on economic stability in Indonesia. Therefore, the government needs to implement monetary policy carefully so that the economy in Indonesia is stable.

Keywords: Inflation, Money Supply, Interest Rate

1. Introduction

Economic growth and stability are the goals of national development in an effort to improve people's welfare equally. Stable economic growth in a country has an impact on increasing per capita income and decreasing unemployment in addition, stable economic growth is also inseparable from the money supply and controlled inflation value. However, for developing countries such as Indonesia, economic growth is still often unstable due to a slowing economy and often high inflation values. Inflation has both positive and negative impacts on the economy. If a country's economy experiences a sluggishness, Bank Indonesia can conduct expansionary monetary policy by lowering interest rates. High and unstable inflation is a reflection of economic instability which results in a general and continuous increase in the price level of goods and services, and results in higher poverty rates in Indonesia. Because of the higher the inflation rate, people who were initially able to meet their daily needs with high prices for goods and services could not meet their needs, causing poverty and the inflation rate in Indonesia fluctuated from year to year as in the table below. references. The items with parentheses are not mandatory.

Table 1. Indonesia's Inflation Rate

Years	2017	2018	2019	2020	2021	2022
Inflation (%)	3.61	3.13	2.72	1.68	1.56	4.21

Table 1.1 shows Indonesia's inflation rate in 2017 at 3.61, in 2018 inflation decreased by 3.13, in 2019 inflation decreased by 2.72, in 2020 it decreased by 1.68 and in 2021 the inflation rate decreased again by 1.56 and in 2022 the inflation rate increased by 4.21.

One of the factors causing inflation can occur because of the large circulation of the amount of money in the community. If the money supply in the community is high, it will cause inflation to

* Corresponding author
E-mail addresses: tirtanaarief2@gmail.com (Universitas Sumatera Utara)

tend to be high and can paralyze the economy so that the money supply must always be stable. There is an increase in the price of goods and services inside the country then encourages inflation so that it has an impact on the value of money that is decreasing. Thus, Bank Indonesia is required to control the amount level money supply because it has a broad impact on other macro variables.

Another factor that can influence changes in the inflation rate is interest rates. The interest rate according to (Hasoloan 2014) is the price of the loan. Policies regarding high and low interest rates are used in order to encourage economic activity. This interest rate policy can also affect inflation. The BI Rate is usually used by banks in determining interest rates such as deposits, savings and credit. Changes in the BI rate have the objective of reducing the level of economic activity that can cause inflation.

High interest rates will be a problem that makes it difficult for investment in the real sector. But a high interest rate will stimulate more people's savings. For this reason, the rate of interest fluctuations must always be controlled in order to continue to encourage investment and production activities and not reduce people's desire to save and not result in capital flight abroad.

The purpose of the study was to determine the effect of money supply and interest rates on inflation in Indonesia for the 2015-2020 period. The existence of hasis inconsistencies between one researcher and another so that researchers are interested in analyzing the level of inflation in Indonesia. In addition, it is also useful to increase insight and knowledge about the factors that affect inflation in Indonesia. Furthermore, it is also expected to be used for further research reference.

2. Literature Review

One of the economic problems that are of concern to economic thinkers is inflation because inflation is used to measure or see economic stability in a country. One of the factors that cause economic turmoil that is important and feared by the government is inflation, because it can adversely affect the structure of production costs and levels well-being. Inflation is an increase in the price of goods that are general and continuous so that the value of the currency decreases. The impact of inflation is the increase in prices of goods and services in general which takes place continuously and occurs simultaneously in almost all regions. Price increases that take place once or twice, then subside again cannot be said to be inflation.

What must be done is to improve the real sector in order to overcome inflation in Indonesia. Causes of demand-side inflation include money supply. The offer of money offered to the community must match the needs or requests of the community. If the supply of money is excessive from people's needs or demands, it will cause inflation. The relationship between the money supply and the inflation rate is explained by quantity theory, namely the occurrence of inflationary conditions caused by the high amount of money so that control needs to be carried out because it has an impact on other macro indicators. conducted an analysis with the results that the variable money supply has a significant negative effect on inflation in Indonesia.

Changes in the Money Supply are determined by the results of interactions between the public, financial institutions and the Central Bank. The money supply is the product of the primary money (monetary base) with a money multiplier. According to Keynes's theory, the demand for money is a rational act. Increasing demand for money will raise interest rates. Investment in securities (bonds) when interest rates rise will result in capital gains, and will also have an impact on decreasing the company's stock returns.

In addition to the money supply, interest rates are one of the factors that affect inflation. Interest rates can affect the economic growth of a country, one of which is Indonesia. In times of inflation, people's purchasing power decreases and the cost of living increases. Overcoming this, the central bank overcomes it by implementing monetary policy, namely by raising interest rates. With rising interest rates, investors are expected to invest in cash in fixed income instruments.

Interest rates are one of the economic variables whose influence is very broad on the country's economy and can affect the welfare of society in general, therefore interest rates are highly guarded development. Interest rates greatly affect markets and prices (money market and capital market) and are shown as a percentage per year based on money borrowed by the public.

Interest rates are remuneration from bank financial institutions to the public or customers of the bank. Increasing interest rates will reduce the quality of money loans because if interest rates rise, it means that the cost of debt rises and debtors will have difficulty paying off their debts. Inflation and interest rates are considered influential on a country's economic growth. Economic growth will increase when population growth and people's living standards increase. If a country's inflation increases, the rate of economic growth will decrease, this is because high inflation can reduce investor interest in investing in certain sectors. Then it can cause unstable state economic conditions, declining levels of public welfare, balance of payments deficits which can eventually cause a decrease in a country's economic growth.

3. Research Methodology

This research is quantitative research using secondary data. The population in this study is inflation, money supply and interest rates. The sampling technique in this study was carried out by puposive sampling with data sources obtained from Bank Indonesia for the 2016-2022 period. The dependent variable (Y) in this study is inflation, while the independent variable (X) in this study is (X1) money supply, (X2) interest rate. The analysis method in this study was used with multiple linear regression, to see the influence of independent variables on dependent variables.

4. Results and Discussion

Table 2. Data processing results

Dependent Variable: Y
Method: Least Squares
Date: 10/17/23 Time: 23:20
Sample: 2006 2022
Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-15.25993	30.37495	-0.502385	0.6232
X1	0.532237	1.285557	0.414013	0.6851
X2	1.320868	0.392521	3.365093	0.0046

R-squared	0.648374	Mean dependent var	4.829167
Adjusted R-squared	0.598142	S.D. dependent var	2.686897
S.E. of regression	1.703286	Akaike info criterion	4.061780
Sum squared resid	40.61654	Schwarz criterion	4.208818
Log likelihood	-31.52513	Hannan-Quinn criter.	4.076396
F-statistic	12.90752	Durbin-Watson stat	2.487923
Prob(F-statistic)	0.000665		

Based on the table above, the results of analysis testing can be formulated in multiple linear regression equations as follows:
Y= -15.26 + 0.53 Money supply + 1.32 interest rate.
From the results of the Adjusted R2 test, it is known that the value of the coefficient of determination (Adjusted R2) of 0.598 is equal to 59.8%. The figures show that the money supply and interest rates affect inflation by 59.8%, while the remaining 40.2% is influenced by other variables outside the model. The t test aims to determine whether partially (individually) the independent variable has an effect on the dependent variable. Based on the method of partial test decision making in regression analysis, it can be concluded that:

a. The variable money supply significance value of 0.6851 > 0.05 then partially does not have a significant effect on inflation. The absence of the influence of the money supply on the inflation rate is not in line with the theory of the quantity of money. Irving Fisher said that changes in the money supply are directly proportional to changes in prices. JUB can cause inflation to rise if it is not accompanied by growth in the production of goods and services. However, there are also conditions where the JUB increase will not cause an increase in inflation. This phenomenon occurs due to the increase in JUB also supported by the supply of goods and services that are still able to cover demand from the public. In addition, the decline in the inflation rate is also reflected in Indonesia's core inflation which has experienced slowing growth since the last 10 years. That is, people are still cautious and tend to hold back their consumption. So that most of the money in circulation only settles in bank accounts and credit distribution is also not optimal, this is inseparable from the covid conditions that occurred in 2019-2020. This is in line with research that has been conducted.
b. The variable amount of interest rate significance of 0.0046 < 0.05 then partially has a significant effect on inflation, and the hypothesis is accepted. This means that the higher the interest rate, the higher the inflation rate, or vice versa. This is in line with the Fisher effect, that there is a one-to-one relationship between inflation and interest rates, and this has been proven in the United States economy over the past decade which shows that when inflation is high then interest rates are also high, and when inflation is low then interest rates are also low. In 2022 the government has raised interest rates, where previously in 2018 the government continued to reduce interest rates. This is done to control the value of inflation caused by rising food and energy prices, not from the large money supply in 2022. The positive and significant relationship between interest rates and inflation is also supported by research.

5. Conclusion

The money supply does not have a significant effect on inflation in Indonesia, this happens because the government's role in making monetary policy that can trigger the money supply can be implemented because it does not have an impact on the inflation rate. However, unlike interest rates, interest rates have a positive and significant effect on inflation in Indonesia. The positive influence between interest rates and inflation suggests that monetary policy tends to follow inflationary movements. In other words, the policy is reactive, then lowered if the inflation rate has shown a downward trend. High interest rates cannot always reduce inflation because in Indonesia inflation can be caused by foreign countries because Indonesia adheres to an open economy. This is also in accordance with the factors of inflation, namely inflation in imports.

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References

Agusmianata, Nuri, Theresia Militina, and Diana Lestari. 2018. "Pengaruh Jumlah Uang Beredar Dan Tingkat Suku Bunga Serta Pengeluaran Pemerintah Terhadap Inflasi Di Indonesia." *Forum Ekonomi* 19(2):188. doi: 10.29264/jfor.v19i2.2125.

Ambarwati, A. D., Sara, I. M., & Aziz, I. S. A. 2021. "Pengaruh Jumlah Uang Beredar (JUB), BI Rate Dan Inflasi Terhadap Pertumbuhan Ekonomi Di Indonesia Periode 2009- 2018." *Warmadewa Economic Development Journal (WEDJ)* 4(1):21–27.

Astuty, Pudji, and Almira Rizqia. 2021. "Pengaruh Modal Asing, Kurs, Inflasi, Suku Bunga Dan Indeks Saham Terhadap Kapitalisasi Pasar Modal Indonesia." *Journal*

Economics and Strategy 2(2):19–28. doi: 10.36490/jes.v2i2.209.

Eswanto, Rita Andini, and Abrar Oemar. 2016. "Pengaruh Tingkat Suku Bunga Pinjaman, Non Performing Loan, Dana Pihak Ketiga, Inflasi, Dan Produk Domestik Regional Bruto Terhadap Permintaan Kredit Bank Umum Di Jawa Tengah Periode 2009-2013." *Journal of Accounting* 2(2):20–37.

Hasoloan, Jimmy. 2014. *Ekonomi Moneter*. Yogyakarta: cv budi utama.

Hidayat, La Rahmad, Djoko Setyadi, and Musdalifah Azis. 2018. "Pengaruh Inflasi Dan Suku Bunga Dan Nilai Tukar Rupiah Serta Jumlah Uang Beredar Terhadap Return Saham." *Forum Ekonomi* 19(2):148. doi: 10.29264/jfor.v19i2.2121.

Indriyani, S. N. 2016. "Analisis Pengaruh Inflasi Dan Suku Bunga Terhadap Pertumbuhan Ekonomi Pertumbuhan Ekonomi Di Indonesia Tahun 2005-1015." *Jurnal Manajemen Bisnis Krisnadwipayana*.

Luthfiah Azizah, Bambang Ismanto, and Destri Sambara Sitorus. 2019. "Pengaruh Nilai Tukar Rupiah Dan Jumlah Uang Beredar Luas Terhadap Inflasi Di Indonesia Periode 2010 – 2019." *The Third Reich* 1–8. doi: 10.4324/9781315121154-17.

Mahendra, A. 2016a. "Analisis Pengaruh Jumlah Uang Beredar, Suku Bunga Sbi Dan Nilai Tukar Terhadap Inflasi Di Indonesia." *Jurnal Riset Akuntansi & Keuangan* 1–12. doi: 10.54367/jrak.v2i1.170.

Mahendra, A. 2016b. "ANALISIS PENGARUH JUMLAH UANG BEREDAR, SUKU BUNGA SBI DAN NILAI TUKAR TERHADAP INFLASI DI INDONESIA." *Jurnal Riset Akuntansi & Keuangan* 2(1):1–12.

Ningsih, S., & Kristiyatnti, L. 2016. "Analisis Pengaruh Jumlah Uang Beredar, Suku Bunga , Dan Nilai Tukar Terhadap Inflasi Di Inodnesia Periode 2014-2016." *Jurnal Ekonomi Manajemen Sumber Daya* 20(1):96–103.

Nopirin. 2009. *Ekonomi Moneter II.* Yogyakarta: BPFE.

Perlambang, Heru. 2017. "Analisis Pengaruh Jumlah Uang Beredar, Suku Bunga Sbi, Nilai Tukar Terhadap Tingkat Inflasi." *Media Ekonomi* 49–68. doi: 10.25105/me.v18i2.2251.

Prasasti, Karari Budi, and Edy Juwono Slamet. 2020. "Pengaruh Jumlah Uang Beredar Terhadap Inflasi Dan Suku Bunga, Serta Terhadap Investasi Dan Pertumbuhan Ekonomi Di Indonesia." *Jurnal Ekonomi Dan Bisnis Airlangga* 30(1):39. doi: 10.20473/jeba.v30i12020.39-48.

Putri, Venny Kurnia. 2017. "Analisis Pengaruh Jumlah Uang Beredar, Suku Bunga Sertifikat Bank Indonesia, Dan Suku Bunga Kredit Investasi Terhadap Inflasi Di Indonesia." *JOM Fekon* 4(1):26–39.

Simanungkalit, Erika Feronika Br. 2020. "Pengruh Inflasi." *Journal of Management* 13(3):327–40.

Sutawijaya, Adrian. 2012. "Pengaruh Faktor-Faktor Ekonomi Terhadap Inflasi Di Indonesia." *Jurnal Organisasi Dan Manajemen* 8(2):85–101. doi: 10.33830/jom.v8i2.237.2012.