

The Impact of Monetary Policy on Macroeconomic Stability in Indonesia: an Analysis of Inflation, Interest Rates, and Economic Growth

Muhammad Apis Daulay^{1*}, Muhammad Ali Imran Caniago², Muhammad Ahsanul Amal³, Rindu Wirdatusifa Wass¹, Nadia Aprilia Putri¹

Afiliation Sekolah Tinggi Agama Islam Nurul Falah Airmolek¹
Universitas Islam Negeri Syekh Ali Hasan Ahmad Addary Padangsidempuan²
Institut Agama Islam Negeri Kendari³

Email apis@stainf.ac.id*

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ABSTRACT

This research analyzes the impact of monetary policy on macroeconomic stability in Indonesia, focusing on inflation, interest rates, and economic growth. The study uses secondary data from the Central Bureau of Statistics (BPS). Model selection estimation testing indicates that the Fixed Effect Model (FEM) is the most appropriate approach, and panel data regression analysis is applied. The results show that the money supply does not significantly affect economic growth, indicating that growth is more strongly influenced by structural and non-monetary factors such as productivity, institutions, and fiscal policy. Interest rates are also found to have no significant impact on economic growth. This may reflect the low responsiveness of the real sector to interest rate changes, particularly when economic actors prioritize non-monetary factors, including political stability, business regulations, and market demand. Limited access to banking services for communities and MSMEs further weakens monetary policy transmission. Meanwhile, inflation has a significant effect on economic growth in Indonesia. However, high and uncontrolled inflation can reduce purchasing power and weaken long-term economic stability. This research can make a positive contribution to addressing economic growth issues in Indonesia and promoting sustainable development.

Keywords: Inflation, Interest Rates, Economic Growth

JEL Classification: D73, O47, F21, I15, F13

INTRODUCTION

Macroeconomics plays a crucial role in determining a country's policy direction, particularly in maintaining the stability of economic growth, inflation, and unemployment rates. One of the main instruments in macroeconomics is monetary policy, which is implemented by central banks to control the money supply, interest rates, and price stability (Nabila et al., 2024).

Monetary policy is one of the main instruments used by governments, particularly central banks, in managing the economic stability of a country. In Indonesia, Bank Indonesia plays a central role in formulating and implementing monetary policy to achieve the stability of the rupiah's value, reflecting the stability of goods and services prices and the overall stability of the financial system. In the context of macroeconomics, this stability is essential for creating a conducive business climate, fostering investment, and promoting sustainable economic growth (Bank Indonesia, 2020).

One of the main indicators in assessing the effectiveness of monetary policy is the inflation rate. Excessively high inflation reflects weak purchasing power in the community and can cause economic uncertainty, while excessively low inflation or even deflation is also not ideal because it indicates weak aggregate demand. Therefore, controlling inflation becomes an important goal in monetary policy. Bank Indonesia regularly sets annual inflation targets as a benchmark for the success of the policies implemented (Mishkin, 2020).

Beside inflation, interest rates are an important variable in monetary policy because they directly affect consumption, savings, and investment. Adjusting benchmark interest rates such as the BI Rate or BI-7DRR (7-Day Reverse Repo Rate) is a crucial policy transmission mechanism that significantly determines the direction of economic growth. Rising interest rates generally suppress consumption and investment, but are effective in curbing inflation. Conversely, falling interest rates can stimulate aggregate demand, but potentially increase inflationary pressure (Bank Indonesia, 2025).

Economic growth, a key macroeconomic indicator, is also significantly influenced by monetary policy. Appropriate monetary policy can create a balance between inflation, price stability, and economic activity. In the long run, stable and inclusive economic growth is not only affected by fundamental factors such as productivity and investment, but also by macroeconomic policies that are responsive to domestic and global economic dynamics (Mankiw, 2020).

The global context also plays a significant role in the direction and impact of monetary policy in Indonesia. When central banks of major countries like The Fed (US) raise

interest rates, capital flows tend to exit developing countries including Indonesia, putting downward pressure on the rupiah exchange rate. In this situation, Bank Indonesia often responds with contractionary monetary policy to stabilize the exchange rate and prevent market volatility (Obstfeld et al., 2010).

In the past decade, Indonesia has faced various macroeconomic challenges, ranging from the 2008 global financial crisis, the slowdown of the Chinese economy, the COVID-19 pandemic, to the impact of global geopolitics on commodity price stability. The monetary policy response to these various pressures highlights the importance of synergy between inflation control, interest rate management, and efforts to maintain economic growth momentum (World Bank, 2021).

However, the effectiveness of monetary policy is not always optimal due to limitations in policy transmission and dependence on external factors. For example, when businesses are reluctant to invest despite low interest rates, or when inflation is driven by supply-side factors such as rising global food prices, monetary instruments become less effective. Therefore, an in-depth analysis of the impact of monetary policy on inflation, interest rates, and economic growth is highly relevant, particularly in the context of the Indonesian economy (Bernanke & Gertler, 1995).

In Indonesia, the monetary policy implemented by Bank Indonesia (BI) is often the main tool for addressing economic challenges, such as inflationary pressures, exchange rate instability, and the impact of global economic fluctuations. Changes in the benchmark interest rate (BI Rate), for example, can affect investment, consumption, and public purchasing power, ultimately impacting national economic growth.

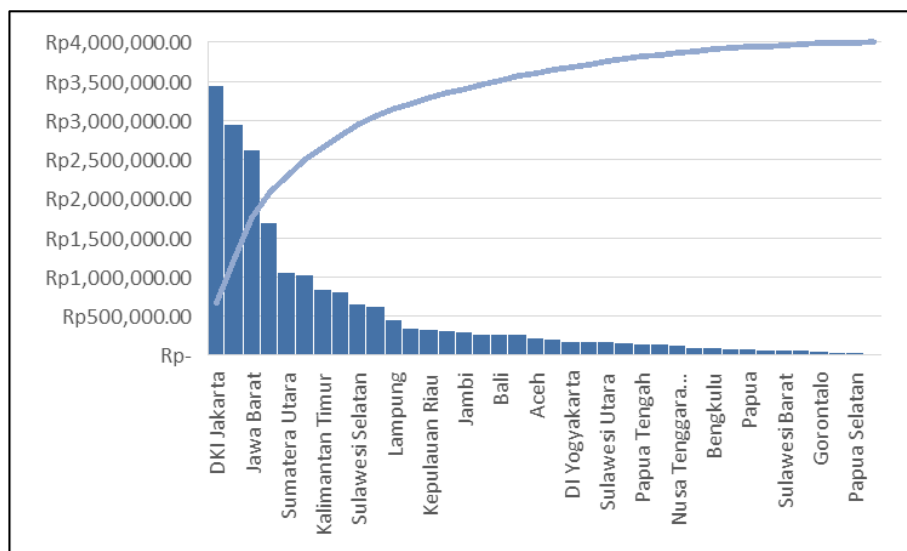


Figure 1. Indonesia's Economic Growth in 2025

Source: Central Bureau of Statistics 2025.

However, the effectiveness of monetary policy in maintaining economic stability is still debated. Some argue that tight monetary policy can curb inflation but slow economic growth, while loose policy can boost investment but risks increasing inflationary

pressures (Elsa et al., 2025). Therefore, a more in-depth study is needed on how monetary policy affects key macroeconomic variables such as inflation, interest rates, and economic growth in Indonesia.

This research aims to analyze the impact of monetary policy on macroeconomic stability in Indonesia in recent years. By understanding the link between monetary policy and key economic indicators, this research is expected to provide recommendations for policymakers in designing more effective strategies to achieve stable and sustainable economic growth.

METHOD

Table 1 presents an overview of the key monetary policy variables and their relationship with macroeconomic stability. This table summarizes the main indicators used in the analysis, providing a clear framework for understanding how monetary policy instruments influence inflation, interest rates, and economic growth within the Indonesian economy.

Table 1. Monetary Policy and Macroeconomic Stability

No	Research Focus	Author(s) & Year	Main Findings	Brief Analysis
1	Monetary Policy and Macroeconomic Stability	Frederic S. Mishkin & Stanley G. Eakins (2019)	Monetary policy is the primary tool used by central banks to control money supply and interest rates to achieve macroeconomic stability.	Emphasizes the central role of monetary policy in stabilizing the economy.
2	Monetary Policy Instruments in Indonesia	Bank Indonesia (2023)	BI uses policy instruments such as the BI-Rate, open market operations, and reserve requirements to control inflation and sustain economic growth.	Provides empirical context of monetary policy implementation in Indonesia.
3	Tight Monetary Policy	N. Gregory Mankiw (2020)	Tight monetary policy can reduce inflation but may slow economic growth and increase unemployment.	Highlights the trade-off between inflation control and economic growth.
4	Loose Monetary Policy	Olivier Blanchard (2021)	Expansionary monetary policy stimulates investment and consumption but increases inflationary pressures.	Indicates risks of macroeconomic imbalance from excessive monetary easing.
5	Interest Rates and Inflation Control	Ben S. Bernanke (2022)	Appropriate interest rate policy can control inflation without harming economic growth.	Shows the importance of precision in monetary policy decisions.

No	Research Focus	Author(s) & Year	Main Findings	Brief Analysis
6	BI-Rate and Inflation in Indonesia	Silvia & Syamratun (2023)	Changes in the BI-Rate significantly affect inflation and public purchasing power.	Strengthens the relevance of interest rate policy in the Indonesian context.
7	Interest Rates and Investment	John Maynard Keynes (Theory)	High interest rates reduce investment by increasing borrowing costs	Serves as a fundamental theory linking interest rates and economic growth.
8	Interest Rates and Economic Growth	Suhendra (2020); Hakim (2023)	Increases in benchmark interest rates are followed by slower economic growth due to declining investment and consumption.	Demonstrates the direct impact of interest rates on the real sector.
9	Interest Rate Stability	Winarto et al. (2021)	Stable interest rates improve market confidence and support long-term economic growth.	Highlights the importance of policy consistency for sustainability.
10	Monetary Policy, Inflation, and Growth	Sardjonopermono (1998); Atiqo Mita (2022)	Effective monetary policy reduces economic volatility and helps prevent financial crises.	Emphasizes balance between price stability and growth objectives.
11	Challenges in Monetary Policy Implementation	Winarto et al. (2021)	Monetary policy effects are subject to time lags before impacting the economy.	Identifies lag effects as a major challenge in policy evaluation.

Operational definitions in this study are provided to clarify the meaning and measurement of each research variable in order to avoid ambiguity and ensure consistency in analysis. Each variable is defined based on theoretical concepts and empirical indicators commonly used in macroeconomic studies, particularly those related to monetary policy and macroeconomic stability in Indonesia. These definitions serve as a guideline for data collection, variable measurement, and interpretation of research findings.

Table 2. Operational Definitions

Variable	Definition	Source
Dependent Variable		
Economic Growth (Y)	Economic growth is measured using gross domestic product.	BPS
Independent Variable		
Money supply (X1)	Here's how to calculate the money supply: $M1 = \text{Currency} + \text{Demand Deposits}$ $M2 = M1 + \text{Quasi-Money}$. The money supply will reflect the availability of money circulating in the economy.	BPS
Interest rates (X2)	BI Rate is the benchmark interest rate used by Bank Indonesia as a monetary policy instrument to control inflation, regulate	BPS

Variable	Definition	Source
	liquidity, and maintain the stability of the rupiah exchange rate.	
Inflation (X3)	Inflation is a general increase in the prices of goods and services, where these goods and services are basic necessities for society or a decrease in the purchasing power of a country's currency.	BPS

This research uses secondary data obtained from the World Bank regarding the Money Supply, Interest Rates, and Inflation during the period from 2020 to 2024. The money supply is expressed in billions or trillions of Indonesian rupiah (Rp), interest rates are expressed as a percentage (%) per year, and inflation is expressed as a percentage.

The analysis method used is panel data regression, which includes three main approaches: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). The best model is selected thru three statistical tests: the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test. The following is the model built in this study.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}Y$$

Description

- Y_{it} : economic growth balance,
- X_{1it} : money supply, X_{2it}: interest rate,
- X_{3it} : inflation
- β₀ : constant when X=0,
- β : regression coefficient, and
- e_{it} : error term.

RESULT

The descriptive statistics results are presented to provide an overview of the distribution and basic characteristics of the research variables, including their mean, minimum, maximum, and standard deviation values. This analysis helps to describe the general pattern of the data and serves as an initial step in understanding the behavior of monetary policy variables and their relationship with macroeconomic stability in Indonesia.

Table 3. Descriptive Statistics

	Money Supply (Billion Rupiah)	Interest Rate (%)	Inflation (%)	Economic Growth (%)
Mean	7898593.541	4.7375	2.775	3.4235
Median	7926720.185	4.375	2.56	5.03
Maximum	9210815.72	6.25	5.95	5.41
Minimum	6393743.8	3.5	1.33	-2.07
Std. Dev.	914370.8316	1.113538102	1.411152944	2.656412846
Ob.	20	20	20	20

Source: Data processed

The table above illustrates the highest money supply variable of 9,210,815.72 billion rupiah in the fourth quarter of 2024. The lowest was 6,393,743.8 billion rupiah in the second quarter of 2020, and the average money supply was 7,898,593.541 billion rupiah. The highest interest rate variable is 6.25% in the second quarter of 2024, and the lowest is 3.5% in 2021, with an average interest rate of 4.7375%. The highest inflation variable is 5.95% in the third quarter of 2022, and the lowest is 1.33% in the second quarter of 2021, with the highest average inflation rate being 2.775%. The highest economic growth variable is 5.41% in the third quarter of 2022, and the lowest is -2.07% in the fourth quarter of 2020, with an average economic growth rate of 3.4235%.

Table 4. Model Selection Test Results

Variabel	CEM	FEM	REM
C	-15.89759***	-3.202465*	-15.89759***
X1	0.0004***	0.9230*	0.0000***
X2	0.2017*	0.1066*	0.0693*
X3	0.0170**	0.0135**	0.0013***
Adjusted R- Square	0.708702	0.863795	0.708702
Prob. (F- Statistic)	0.000039	0.000005	0.000039
Chow Test		19.356415*** (Cross-section Chi-square)	
Hausman Test		21.218626*** (Cross-section Chi-square)	

Note: *p < 0.10; **p < 0.05; ***p < 0.01

Source: Data processed

Based on Table 4, the test results show that the best model selection is the fixed-effects model (FEM) for economic growth rate. The selection of the FEM model in this study is in accordance with the rules for drawing conclusions: if the results of the Chow test and Hausman test are significant or the prob. value is < 0.05, then the FEM model is selected. From the table above, the results of the Chow test and Hausman test are marked with three stars, indicating that the test results are significant or the prob. value is < 0.01. Given the Chi-square probability value < 0.05, this hypothesis is accepted. Looking at the economic growth rate using an R-squared value of 0.863795, this means that the variables of money supply, interest rates, and inflation can explain 86.3795% of the economic growth rate, while the remaining 13.6205% is explained by variables not included in this study. The F-test value of 0.000005 indicates that the variables of money supply, interest rates, and inflation have a simultaneous effect on economic growth. The t-test with a probability level < 0.05 showed that only the inflation variable significantly influenced the economic growth variable. Meanwhile, the money supply and interest rate variables did not affect economic growth. The empirical results

indicate that the estimated model is free from classical assumption problems. Diagnostic tests confirm that the model does not suffer from autocorrelation, heteroskedasticity, or multicollinearity.

DISCUSSION

Based on the estimation test results, the fixed-effects model shows that H1 is rejected; that is, the money supply does not significantly affect economic growth in Indonesia. However, these results indicate that there are other factors that are more dominant in influencing economic growth in Indonesia. The insignificance of the money supply's impact can be caused by various factors, such as low efficiency in distributing money to productive sectors, thus not directly impacting the increase in national output. Additionally, structural problems in the Indonesian economy, such as uneven infrastructure, complex bureaucracy, and income inequality, can also hinder the role of money supply in driving economic growth.

The findings of this study align with those of [Milton Friedman \(1963\)](#), who argued that the amount of cash in circulation does not always have a coordinated impact on economic growth. Friedman believed that the velocity of money and the persistence of asset allocation have a greater impact on economic growth.

Thru estimation tests on the fixed-effects model, it was explained that H2 was rejected, meaning that interest rates do not significantly affect economic growth in Indonesia. However, these results indicate that there are other factors that are more dominant in influencing economic growth in Indonesia than interest rates. The insignificance of the interest rate's impact can be caused by the real sector's lack of responsiveness to changes in interest rates, especially when businesses and the public are more influenced by non-monetary factors such as political stability, business regulations, or market demand. Additionally, the limited access of some communities and MSME actors to banking services also means that changes in interest rates do not immediately have a broad impact on economic activity.

The findings of this study are not consistent with [Mankiw's \(2006\)](#) research, which states that by setting the BI Rate, Bank Indonesia can control money market liquidity.

Based on the results of the fixed-effects model estimation, it is explained that H3 is accepted, meaning that inflation significantly affects economic growth in Indonesia. However, if inflation is too high and uncontrolled, it will have a negative impact on economic growth in the long run because it can reduce people's purchasing power and harm the overall economy ([Conlon et al., 2021](#)).

However, this study also has some limitations, so it is recommended that future research conduct further studies using more data and adding relevant variables about factors influencing economic growth to make the research more accurate.

CONCLUSION

Based on the results of this study, it can be concluded that the model selected in the best selection test is the fixed-effects panel data regression analysis model (FEM). The inflation variable significantly affects the rate of economic growth in Indonesia. Meanwhile, the money supply and interest rates did not affect Indonesia's economic growth rate in 2020-2024. The adjusted R-squared value is 0.906807, which means that the variables of money supply, interest rates, and inflation can explain 90.68% of the economic growth rate variable. For comparison, the remaining 9.32% is explained by other variables outside the study.

This research can be used as a reference, particularly in understanding the influence of money supply, interest rates, and inflation on economic growth in Indonesia during the period 2020–2024. The findings of this research can serve as a basis for formulating more targeted monetary policies, such as controlling inflation thru setting benchmark interest rates, carefully managing liquidity, and strengthening the transmission of monetary policy to the real sector, especially for MSME actors. Additionally, the results of this research can also support macroeconomic stabilization policies aimed at sustainable economic growth.

However, this study has limitations, particularly in its time scope, which is limited to the period 2020–2024 in Indonesia. Additionally, the variables used are still limited in comprehensively explaining the dynamics of economic growth. Therefore, future research is suggested to expand the observation period and add other variables that potentially influence economic growth, such as the export rate, human development index, investment, and financial sector stability, in order to obtain deeper and more comprehensive analysis results.

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