The Effect of Inflation and Interest Rates on Economic Growth in Indonesia

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Abstract. This study aims to examine the impact of inflation and interest rates on economic growth in Indonesia. The research focuses on three key variables: inflation, the BI rate (Bank Indonesia's benchmark interest rate), and constant Gross Regional Domestic Product (GRDP) data from 2000 to 2023. The data were analyzed using statistical tools such as SPSS and EViews to assess the relationships between these variables. The findings reveal that, simultaneously, inflation and interest rates do not have a significant effect on economic growth, as indicated by an F-probability value greater than 0.05. However, when analyzed partially, inflation demonstrates a positive and significant influence on economic growth, while interest rates exhibit a negative and significant impact. These results suggest that while inflation may stimulate economic activity under certain conditions, higher interest rates tend to hinder growth, likely by increasing borrowing costs and reducing investment. The study provides valuable insights for policymakers in Indonesia, emphasizing the need to carefully balance monetary policies to foster sustainable economic growth. By understanding the distinct effects of inflation and interest rates, stakeholders can develop more effective strategies to navigate economic challenges and promote long-term stability.

Keywords: Inflation, Interest Rates, Economic Growth

1 Introduction

One of the most important metrics for assessing a nation's economic success is economic growth. Economic growth analysis is crucial for establishing national development goals and macroeconomic policy choices. This is consistent with initiatives to generate high-quality economic development using a combination of monetary and fiscal policy. In order to make economic policies more focused, they must be able to take into account the business cycle that takes place in the economy.

Economic development demonstrates how much economic activity may provide more revenue or improve the wellbeing of the community over a given time frame. Funding for increased economic activity is necessary to raise the caliber and volume of goods produced. The Gross Regional Domestic Product (GRDP) is one indicator of development success. The total added value of products and services produced by

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all economic activity in a region over a specific time period, at both current and constant prices, is the gross regional product (GRDP), according to Bank Indonesia's Department of Economic and Monetary Statistics. Real economic growth from year to year or economic growth unaffected by pricing considerations is measured using GDP at constant prices [1].

The economic growth cycle has shown the phenomenon of slowdown growth in several periods in the last two decades. Slowdown growth occurs when the rate of economic growth decreases significantly or not as fast as before. Some important moments where Indonesia experienced slowdown growth were in 2008-2009, 2013-2014, 2015-2019, 2020, and in 2021-2023.After the global financial crisis in 2008, Indonesia's economic growth slowed from around 6-6.5% to around 4.6% in 2009. Although Indonesia managed to avoid a recession, this slowdown in growth was caused by a decline in global demand and uncertainty in the world economy.

Indonesia's situation in the slowdown growth phase is feared to be trapped in the Middle Income Trap, which is a condition in which a country that has reached the middle income level finds it difficult to rise to the high income level. This is because despite its stable economic growth, Indonesia still faces structural challenges such as dependence on commodity exports, unequal education quality, social inequality and regional development disparities, and low investment in research and innovation.

Aggregate supply and demand must be balanced for economic growth to occur. In order to prevent inflation, an increase in aggregate demand must be accompanied by a sufficient increase in aggregate supply. The total demand for products and services at different price points in an economy over a specific time period is known as aggregate demand. Net exports, government spending, corporate investment, and household consumption are the primary drivers of aggregate demand. Businesses will be encouraged to boost production in order to satisfy the increased demand if aggregate demand rises. This will accelerate economic expansion. However, inflation can result from an excessive rise in aggregate demand without a corresponding rise in aggregate supply, which could eventually impede economic progress.

The costs of high and fluctuating inflation are frequently emphasized by macroeconomists, central bankers, and policymakers. When inflation reduces economic efficiency, the economy is subject to negative externalities. Uncertainty regarding the future profitability of investment projects can result from inflation, particularly when high inflation is also linked to greater price unpredictability. In the end, this results in less investment and slower economic growth since it causes more cautious investment techniques than would otherwise be the case. Because inflation affects the balance of payments and makes exports substantially more expensive, it can also make a nation less competitive internationally[2].

The deliberate inflation view argues that an increase in the price level will provide a stimulus for relatively productive segments of the economy to provide more profit for more innovative factors. The structurally inflation view considers that aggregate demand results in price increases due to bottleneck factors that prevent additional production on the supply side. The surprise inflation view is part of growth because the price increase will be followed by an increase in production where investors expect the speed of the price increase has not impacted the cost side so that profits increase [3].

Udin et al [4] explains that monetarism suggests that inflation is the main factor affecting growth but if inflation is more than the economic growth rate while prices must rise as a result. However, by reducing the jobless rate, the Phillips Curve notion demonstrates that inflation is high with confidence and contributes to economic growth. It goes on to say that whereas inflation and total investment have a positive impact on GDP per capita, interest rates and unemployment have a negative one.

Researchers from a wide range of disciplines have been interested in the interest rate and economic growth issue during the last few decades. One of a nation's key macroeconomic goals is economic growth. Since interest rates often set the pace for investment markets, they are among the most significant economic factors. Interest rate increases draw in capital and bolster the value of the local currency, but they can also impede economic growth by lowering purchasing power, which means that consumers have less money to meet their basic needs and are less inclined to borrow [5].

Interest rates can be seen from a number of angles, such as a cost of capital, a return on investment of financial assets, or a reward for saving. They are also seen to be one of the key elements influencing investment and saving in a nation and, in turn, economic growth. Higher interest rates often promote saving since they raise income, but they can also raise the cost of capital, which reduces a nation's level of investment. [6].

2 Literature Review

2.1 Keynesian Theory

The aggregate supply and demand curves that make up the conventional Keynesian model accurately depict the connection between growth and inflation. This model's key characteristic is that, in the short term, the aggregate supply curve slopes upward rather than vertically. Changes on the demand side of the economy only impact prices if the aggregate supply curve is vertical. However, if it slopes upward, adjustments to aggregate demand impact production and prices. This is true with the fact that various factors drive the inflation rate and output level in the short run [2].

The supply and demand for money (as established in the money market) influence the interest rate, which is a monetary phenomenon in accordance with Keynes' theory. The price of loanable funds, or interest rate, is influenced by the sources and preferences of loans made by different market participants. Market interest rates, also known as prevailing interest rates, fluctuate periodically and are impacted by changes in the purchasing power of money in addition to shifts in the lending and borrowing preferences of economic players. Banks frequently set deposit rates higher than those formally announced in the media in the hopes that [7].

2.2 Quantity Theory of Money

By merely equating the entire amount of money in existence with the total amount of expenditure in the economy, the Quantity Theory of Money establishes a connection

between inflation and economic growth. According to Friedman, inflation results from a rise in the money supply or circulation that outpaces the rate of economic expansion. [2].

There are three possible states of public expectation or inflation expectation, according to the Quantity Theory of Money. The first is when the public does not yet anticipate price increases in the upcoming months, in which case the majority of the additional money supply will be embraced by the public to boost liquidity. In the second scenario, consumers start to anticipate price increases if they start to recognize that there is inflation. The increase in the money supply will be fully translated into a rise in demand for goods and services if individuals anticipate future price increases equal to the rate of inflation in the previous month. The third situation occurs in the more severe stage of inflation, the hyperinflation stage. In this situation the public has lost confidence in the value of money, the reluctance to hold cash and the desire to buy goods and services once they receive money becomes widespread among the public [8].

2.3 Endogenous Growth Theory

In contrast to external (exogenous) forces like population expansion, endogenous growth theory explains that economic growth is produced by factors that occur within the production process, such as economies of scale or induced technological change. According to endogenous growth theory, the rate of return on capital is the only variable that affects the growth rate. Inflation and other factors lower the rate of return, which lowers capital accumulation and slows economic growth. [9].

Endogenous growth theory emphasizes that low interest rates can encourage capital accumulation, investment in research and development (R&D) and human capital improvement, all of which are key drivers of long-term economic growth. Lower interest rates make it easier to finance innovation projects and investment in human capital that can generate sustainable economic growth.

3 Research Method

Using variable data for the last 23 years, or 2000–2023, along with the availability and completeness of pre-existing data, the study's total data is secondary data. Time series data were employed in this investigation. The Central Bureau of Statistics (BPS) is the primary source of secondary data used in this study. This study looks at Indonesia's economic growth, inflation, and interest rates between 2000 and 2023. Economic growth is computed using constant GRDP (Gross Regional Domestic Product) in percent, while inflation and interest rates are computed in percentage terms. Eviews and SPSS software will be used to process this research data.

4 Result

Eviews data analysis with inflation and interest rates as independent variables and economic growth determined by a constant gross national product as the dependent variable. The following outcomes are shown via data analysis:

Dependent Variable: Y_PDRB
Method: Least Squares
Sample: 2000 2023
Included observations: 24

Table 1. Multiple Linear Regression Estimation Results of the Effect of Inflation and Interest Rates on Gross Regional Domestic Product (GRDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.368724	1.012782	5.300967	0.0000
X1_INFLASI	0.393200	0.177400	2.216465	0.0378
X2_SUKUBUNGA	-0.434708	0.195138	-2.227688	0.0370

R-squared	0.207453	Mean dependent var	4.382500
Adjusted R-squared	0.131972	S.D. dependent var	2.119697
S.E. of regression	1.974880	Akaike info criterion	4.315360
Sum squared resid	81.90313	Schwarz criterion	4.462617
Log likelihood	-48.78433	Hannan-Quinn criter.	4.354428
F-statistic	2.748423	Durbin-Watson stat	1.818665
Prob(F-statistic)	0.087049		

Source: Processed results 2024

According to the preceding research, the probability values of inflation and interest rates are 0.0378 and 0.0370, respectively. This indicates that, because the probability value is less than 0.05, inflation and interest rates have a considerable impact on economic growth. At the same time, since the probability value of F>0.05, inflation and interest rates do not significantly affect economic growth.

The analysis's findings also demonstrate that, while interest rates have a negative impact on economic growth (as represented by the interest rate coefficient of -0.434708), inflation has a positive impact (as indicated by the inflation coefficient of 0.393200).

The analysis's findings also reveal a coefficient of determination of 13.19 percent, meaning that while other factors beyond the purview of this study account for 86.81% of economic growth, inflation and interest rates account for 13.19 percent.

The following outcomes were attained after the research data was also examined using SPSS to determine whether it was normal:

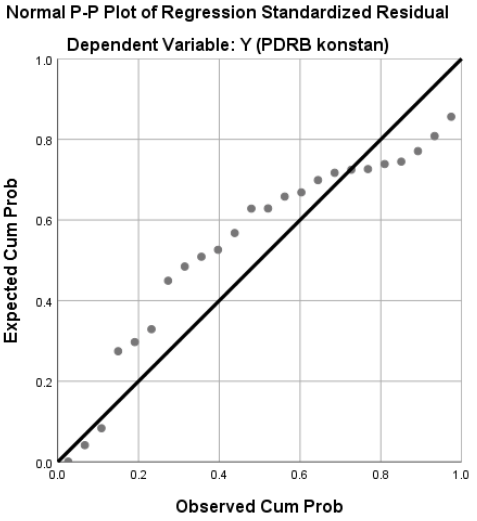

Figure 1. Normal Probability-Probability (P-P) Plot of Standardized Residuals for Regression Model Predicting Gross Regional Domestic Product (GRDP). Source: Processed results 2024

5 Discussion

With a regression coefficient of 0.393200, which means that any increase in inflation will improve economic growth by 0.393200 and a probability value of 0.0378 <0.05, the study's findings show that inflation has a positive and significant impact on economic growth. Because it serves as a warning to its citizens to always save money in order to guard against rising costs for products, inflation can also spur economic growth. Inflation will boost the cost of things, which will raise people's incomes. As a result, individuals will continue to spend their money, which will eventually raise the national income.

The findings of this study are in conflict with research by [10], which claims that inflation significantly and negatively affects economic growth. Since the inflation rate is greater than 2%, inflation has a detrimental impact on economic growth. The fact that the inflation rate only reaches 2% shows that inflation is having a positive

impact. The findings of this study, however, are consistent with research by [11], which discovered that inflation has a positive and significant impact on economic growth because rising production costs brought on by inflation will raise the cost of goods and services, which in turn may affect economic growth.

The study's findings show that interest rates significantly and negatively affect economic growth, as evidenced by the negative regression coefficient of -0.434708, which indicates that any increase in interest rates will result in a 0.434708 decrease in economic growth. Businesses and consumers may become uncertain when interest rates rise. Future investment plans and financial decisions may be impacted by this. Additionally, because lending rates will rise in tandem with growing interest rates, consumers are more likely to consider taking out a loan.

The study's findings are consistent with research by [12], which found that interest rates significantly and negatively impact economic growth. Investment has an impact on interest rates. Low interest rates have the potential to boost investment, which will ultimately impact economic development. Interest rates have a negative and substantial impact on economic growth, according to the same research findings that [13] also provided.

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