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Analysis of the Impact of Inflation on Economic Growth in Indonesia Using Simple Regression Method

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Abstract:

Purpose: *This study aims to investigate the relationship between inflation and economic growth in Indonesia through a simple regression analysis using SPSS. The results of the regression analysis will provide insights into the nature and significance of the relationship between inflation and economic growth in the Indonesian context.*
Design/Methodology/Approach: *The research objective is to assess the impact of inflation, represented as the independent variable, on economic growth, the dependent variable. The identified research variables include the inflation rate and the Gross Domestic Product (GDP) growth rate. The methodology involves employing a simple regression model in SPSS to analyze historical data spanning the last decade. The samples consist of economic data collected annually from various reliable sources. A purposive sampling method is applied to ensure representation across diverse economic sectors.*
Findings: *The simple linear regression analysis reveals a statistically significant negative coefficient of inflation at -0.250527. This outcome indicates a robust and inverse linear relationship between the inflation rate and economic growth in Indonesia over the past decade.*
Practical Implications: *These findings hold crucial implications for economic policy formulation in Indonesia, emphasizing the urgency of maintaining price stability to support sustainable economic growth.*
Originality/Value: *A strategic focus on inflation control may serve as a catalyst for fostering positive economic growth.*

Keywords: *Inflation, economic growth, macroeconomics.*

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1. Introduction

In recent years, Indonesia has undergone notable economic transformations, marked by fluctuating inflation rates that present a significant challenge requiring nuanced examination.

The intricacies of the relationship between inflation and economic growth demand a comprehensive understanding to inform effective policy-making and sustainable development strategies.

This research aims to delve into this complex interplay, contributing to the existing body of knowledge by bridging the theoretical and empirical realms. Grounded in economic theories, this study seeks to address the discrepancies observed between theoretical frameworks and real-world economic phenomena, specifically within the Indonesian context.

The theoretical landscape surrounding the relationship between inflation and economic growth forms the foundation of this research. Drawing on established economic theories, the study will explore the multifaceted nature of this connection, unraveling the underlying mechanisms that dictate the impact of inflation on economic growth.

Concurrently, this introduction will scrutinize contemporary economic phenomena, acknowledging the dynamic nature of the Indonesian economic landscape and the pivotal role inflation plays within it. Furthermore, an examination of the existing literature will shed light on the gaps in knowledge that this research aims to fill.

One of the primary objectives of this study is to critically analyze the extant empirical evidence, including pertinent research findings and outcomes. By synthesizing and contextualizing these results, the research seeks to provide a more nuanced understanding of the relationship between inflation and economic growth in Indonesia.

Additionally, the study will contribute to the academic discourse by proposing hypotheses grounded in both economic theory and empirical observations. This research endeavors to address the limitations of existing studies and provide a more nuanced perspective on the interdependence of inflation and economic growth in the Indonesian context.

As the culmination of this introduction, the research problem, research objectives, and the anticipated contributions of the study will be clearly delineated.

This delineation will serve to guide the subsequent sections of the research, setting the stage for a rigorous and insightful investigation into the nuanced dynamics between inflation and economic growth in Indonesia..

2. Theoritical Review

The grand theory encapsulates fundamental economic frameworks that are pivotal in elucidating the intricate dynamics between inflation and economic growth in the Indonesian context. As a foundational framework, it sets the stage for a nuanced analysis of the individual variables under consideration.

Subsequently, the theoretical focus shifts towards a meticulous examination of each variable, employing economic theories to discern their theoretical underpinnings. In this context, the Phillips Curve and the Quantity Theory of Money emerge as integral theories shaping the understanding of the relationship between inflation and economic growth. This comprehensive theoretical review encompasses an intricate analysis of the interrelationship among variables, synthesizing insights from relevant research literature (Hakim *et al.*, 2022; hakim and Thalassinos, 2022).

Furthermore, it establishes a robust research framework that delineates the interplay between inflation and economic growth, incorporating potential moderating or mediating factors. The formulation of research hypotheses serves as the concluding facet, explicitly articulating the anticipated relationships and providing a theoretical foundation for subsequent empirical investigations. This methodical theoretical review ensures a rigorous and coherent analysis of the impact of inflation on economic growth in Indonesia (Thalassinos *et al.*, 2015; 2018).

Economic growth, a central concept in economic theory, is multifaceted and has been the subject of extensive scholarly inquiry (Ichsan *et al.*, 2023). The Solow-Swan model, a cornerstone in growth theory, posits that long-term economic growth is primarily determined by exogenous factors such as technological progress and capital accumulation.

Further, endogenous growth theories, notably the Romerian model, emphasize the role of innovation and knowledge as endogenous drivers of sustained economic growth. The human capital theory, articulated by Becker, underscores the importance of education and skill development in fostering economic growth, highlighting the intrinsic link between human capital investment and increased productivity.

In addition to these growth theories, the Harrod-Domar model underscores the role of investment in stimulating economic growth, emphasizing the multiplier effect and the consequential impact on overall output.

Schumpeter's theory of creative destruction adds a dynamic dimension, suggesting that economic growth is driven by the continuous process of innovation, entrepreneurship, and the replacement of outdated technologies and industries.

Moreover, institutional theories, including the works of North and Acemoglu, posit that the quality of institutions and the presence of inclusive economic and political structures are pivotal determinants of sustained economic growth. This perspective underscores the significance of a conducive institutional environment in fostering economic development.

The aforementioned theories collectively provide a comprehensive framework for understanding the diverse factors influencing economic growth. While the Solow-Swan model lays the groundwork for exogenous determinants, endogenous growth theories and additional perspectives contribute valuable insights into the intrinsic mechanisms that drive sustained economic expansion. In the context of this study, a nuanced exploration of these theories will provide a robust foundation for examining the relationship between inflation and economic growth in Indonesia.

Inflation, a fundamental economic phenomenon, has undergone extensive theoretical exploration within economic literature. The Quantity Theory of Money, dating back to classical economists like Irving Fisher, establishes a direct link between the money supply and price levels, forming a foundational understanding of inflation.

A.W. Phillips' introduction of the Phillips Curve further contributes by illustrating the inverse relationship between inflation and unemployment, introducing a trade-off that policymakers grapple with. Building on these foundations, the expectations-augmented Phillips Curve incorporates the role of inflation expectations, recognizing their influence on actual inflation rates.

Further theoretical perspectives, including monetarism championed by Milton Friedman, stress the role of monetary policy in controlling inflation. Monetarists assert that excessive money supply growth is a primary driver of inflation, advocating for a monetary rule to stabilize price levels. Meanwhile, New Keynesian theories integrate market imperfections and nominal rigidities, acknowledging that inflation can result from fluctuations in aggregate demand and supply.

Additionally, Cost-Push and Demand-Pull theories offer alternative perspectives on understanding the determinants of inflation, with the former emphasizing supply-side factors and the latter accentuating demand-side pressures (Harry, Aginta, 2023).

In the contemporary landscape, inflation targeting has gained prominence as a policy framework (Pham *et al.*, 2023). Central banks explicitly aim to maintain a target inflation rate for price stability, rooted in the belief that a predictable and moderate inflation rate fosters economic stability, facilitating informed decision-making by economic agents.

Overall, these theoretical perspectives collectively contribute to a comprehensive understanding of the multifaceted nature of inflation, guiding policy decisions and empirical investigations to manage and mitigate its impact on economic systems.

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Figure 1 is a general overview of the past ten years regarding economic growth in Indonesia. The examination of economic growth data over the past decade in Indonesia reveals a pronounced and fluctuating trajectory, indicative of a dynamic economic environment. The time series analysis depicts a series of oscillations in the economic growth rate, reflecting a notable degree of volatility.

The fluctuations signify a complex interplay of various factors influencing the nation's economic performance. Periods of ascent in economic growth may be associated with favorable conditions, such as increased investment, robust consumer spending, or successful policy implementations fostering economic expansion. Conversely, downturns in growth rates may signify challenges, external shocks, or periods of economic adjustment.

The recurring cycles underscore the susceptibility of the Indonesian economy to both domestic and global influences. This nuanced pattern necessitates a comprehensive analysis, incorporating various economic indicators and contextual factors, to discern the underlying drivers of the observed fluctuations and formulate adaptive policies aimed at achieving sustained and resilient economic growth in Indonesia.

Figure 1. *Indonesian Inflation Data 2012-2022*

Source: *Own study.*

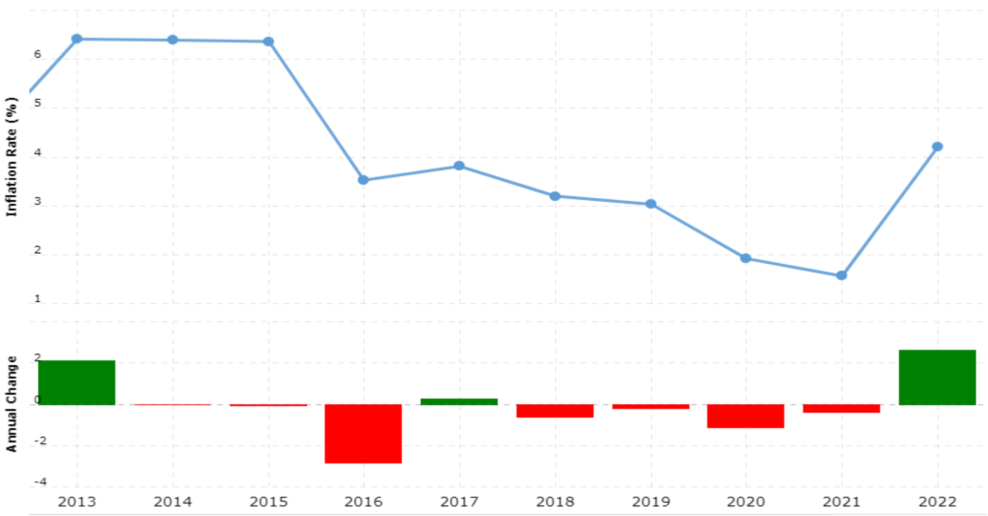
The inflation conditions for the last ten years in Indonesia are as follows:

The analysis of inflation data over the past decade in Indonesia reveals a notably fluctuating economic landscape. The time series analysis indicates a dynamic pattern characterized by oscillations in the inflation rate, suggesting a degree of economic instability. The cyclical nature of inflation, marked by periods of both ascent and descent, reflects intricate macroeconomic dynamics.

The moderate upward trajectories may signify periods of economic expansion and increased consumer spending, potentially indicative of a growing economy. Conversely, the downward trends could signal efforts to control inflation or periods of economic downturn. The sustained fluctuations underscore the complexity of economic factors influencing inflation in Indonesia.

This volatility poses challenges for policymakers, requiring adaptive strategies to maintain a balanced and stable economic environment. Further detailed econometric analyses and comprehensive policy evaluations are imperative to decipher the nuanced dynamics contributing to the observed inflation trends and to formulate effective strategies for sustaining economic stability in Indonesia.

***Figure 2**. Indonesian Economic Growth Data 2012-2022*



***Source:** Own study.*

3. Methods

The research subject pertains to the analysis of the impact of inflation on economic growth in Indonesia, with a focus on exploring the causal relationship between these variables. The research object encompasses macroeconomic data, specifically inflation rates and economic growth indicators, sourced from reliable national statistical agencies.

Variable operationalization involves defining and measuring the key constructs. Inflation is operationalized as the annual percentage change in the Consumer Price Index (CPI), representing the general price level. Economic growth is operationalized as the annual percentage change in the Gross Domestic Product (GDP), reflecting the overall economic performance.

The population under consideration comprises the entire time series dataset of inflation and economic growth for Indonesia over the past decade. For the purpose of this study, a systematic sampling method is employed to select a representative sample from the population. The sampling interval is determined based on the total number of observations, ensuring a balanced representation across the temporal spectrum.

The selected sample will be subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS) software. The statistical test employed to examine the relationship between inflation and economic growth is a simple linear regression analysis. This method allows for the identification of any significant linear association between the independent variable (inflation) and the dependent variable (economic growth). The regression analysis will be conducted with the aim of discerning the magnitude and direction of the impact of inflation on economic growth in the Indonesian context.

4. Results

The simple linear regression analysis reveals a statistically significant negative coefficient of inflation at -0.250527. This outcome indicates a robust and inverse linear relationship between the inflation rate and economic growth in Indonesia over the past decade. The interpretation of the coefficient -0.250527 suggests that each one percent decrease in the inflation rate is associated with a potential increase of 0.250527 percent in economic growth.

In other words, there is an indication that inflation control could have a positive impact on overall economic performance. These findings hold crucial implications for economic policy formulation in Indonesia, emphasizing the urgency of maintaining price stability to support sustainable economic growth.

5. Discussion

The negative and statistically significant coefficient of inflation (-0.250527) uncovered through the simple linear regression analysis provides insightful implications for the broader economic landscape in Indonesia. The inverse relationship between inflation and economic growth underscores the nuanced dynamics of these interconnected variables.

The findings suggest that a strategic focus on inflation control may serve as a catalyst for fostering positive economic growth. While economic theory often debates the existence of a trade-off between inflation and growth, the identified negative coefficient implies that, in the context of Indonesia, a reduction in inflation rates could potentially lead to a proportional increase in economic growth.

6. Conclusion

In conclusion, the study provides valuable insights into the intricate dynamics between inflation and economic growth in Indonesia. The identified negative coefficient highlights the potential benefits of inflation control in driving positive economic outcomes.

The implications of these findings extend to the formulation of effective economic policies, calling for a nuanced approach that acknowledges the multifaceted nature of these macroeconomic variables. This study contributes to the existing body of knowledge, offering a platform for further research and policy refinement in the pursuit of sustainable economic development in Indonesia.

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