

The Impact of Inflation, Exchange Rate, Interest Rate, and Financial Stability on Economic Growth in Indonesia: An ARDL Approach

Rusydi^{1*}, M. Shabri Abd. Majid², Apridar³, Taufik C. Dawood⁴, Rasyidusman Hannamara Furqan Nur⁵, Nurmila Dewi⁶

¹²³⁴Department of economics, Faculty of Economics and Business, Universitas Syiah Kuala, Banda Aceh, Indonesia

⁵⁶Department of business, Politeknik Negeri Lhokseumawe, Indonesia

*Corresponding Author: rusydi.pnl.ac.id

Submitted: 10/05/2026; Revision Accepted: 22/09/2026; Published: 30/09/2026

How to cite this paper:

The Impact of Inflation, Exchange Rate, Interest Rate, and Financial Stability on Economic Growth in Indonesia: An ARDL Approach. (2026). Proceedings of International Conference on Agro and Marine Industry, 2(1). <https://journal.utu.ac.id/index.php/ICONAMI/article/view/309>

Abstract

This study aims to analyze the impact of inflation, exchange rate, interest rate, and financial stability on economic growth in Indonesia during the period 2010–2024. The study employs annual time series data and applies the Autoregressive Distributed Lag (ARDL) approach to examine both short-run and long-run relationships among variables. The results of the Augmented Dickey-Fuller (ADF) test indicate that all variables—economic growth (GDP), inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS)—are not stationary at level but become stationary at the first difference, implying that the variables are integrated at order I(1). The ARDL estimation results reveal that inflation, exchange rate, interest rate, and financial stability significantly influence economic growth in the short run. Furthermore, the Error Correction Model (ECM) shows a negative and statistically significant error correction term, confirming the existence of a long-run equilibrium relationship among the variables. These findings suggest that macroeconomic variables play a crucial role in shaping economic growth dynamics in both the short and long run. Therefore, effective macroeconomic policy management is essential to maintain economic stability and sustainable growth.

Keywords: *Economic Growth, Inflation, Exchange Rate, Interest Rate, ARDL.*

Introduction

Economic growth is one of the most important indicators used to evaluate the success of a country's economic development (Fosu, 2024). It reflects the expansion of an economy's production capacity, which is driven by increased investment, consumption, and technological progress (Krol, 2021). A stable and sustainable level of economic growth is essential for improving societal welfare and maintaining economic stability, particularly in developing countries such as Indonesia (Prasetyo & Kistanti, 2020).

In practice, economic growth is influenced not only by real sector factors but also by macroeconomic conditions (Beutel et al., 2025). Among the key macroeconomic variables are inflation, exchange rate, interest rate, and financial stability. These variables interact dynamically and play a significant role in determining the overall performance of an economy (Zainuri et al., 2024).

Inflation represents a continuous increase in the general price level and has a direct impact on purchasing power and economic stability (Tripathy et al., 2025). Moderate inflation may stimulate economic activity by encouraging production and consumption, whereas high inflation can reduce purchasing power and create uncertainty (Binder et al., 2025). Meanwhile, the exchange rate influences economic performance through international trade and capital flows. Fluctuations in exchange rates can affect export competitiveness, import costs, and overall economic stability (Ramesh et al., 2025).

Interest rates, as a key monetary policy instrument, influence investment and consumption decisions (Peng & Thibodeau, 2020). Higher interest rates tend to suppress economic activity by increasing borrowing costs, while lower interest rates can stimulate investment and consumption. In addition, financial stability plays a crucial role in ensuring the smooth functioning of the financial system (Alhiniti & Al-Madi, 2025). A stable financial system supports investment, enhances confidence, and contributes to sustainable economic growth (Buentjen et al., 2026).

Based on the data used in this study for the period 2010–2024, preliminary analysis using the Augmented Dickey-Fuller (ADF) test indicates that all variables are integrated at order $I(1)$, meaning they become stationary after first differencing. This condition allows the use of the Autoregressive Distributed Lag (ARDL) approach, which is suitable for analyzing time series data with mixed integration orders and small sample sizes.

The ARDL estimation results indicate that inflation, exchange rate, interest rate, and financial stability significantly affect economic growth in the short run. Furthermore, the Error Correction Model (ECM) results show a negative and significant error correction term, indicating the existence of a long-run equilibrium relationship among the variables (Siska et al., 2023). This implies that any short-run disequilibrium will be corrected over time, bringing the system back to its long-run equilibrium (Winarno et al., 2021).

Although many previous studies have examined the relationship between macroeconomic variables and economic performance, most of them focus on limited variables or do not integrate financial stability into the analysis. Therefore, this study contributes by incorporating inflation, exchange rate, interest rate, and financial stability into a unified ARDL framework to analyze their effects on economic growth.

Based on this background, the objective of this study is to analyze the impact of inflation, exchange rate, interest rate, and financial stability on economic growth in Indonesia using the ARDL approach, which allows for the examination of both short-run and long-run dynamics (Supriyadi et al., 2025).

2.Literature Review

Economic growth is a fundamental indicator of a country's economic performance and development success, commonly measured using Gross Domestic Product (GDP). It reflects the expansion of an economy's productive capacity, which is driven by increases in investment, labor productivity, technological advancement, and macroeconomic stability (Eregha et al., 2026). In the context of developing economies such as Indonesia, economic growth is not only determined by real sector factors but is also highly sensitive to macroeconomic conditions, including inflation, exchange rates, interest rates, and financial stability (Dwi Suciany, 2020).

Inflation is one of the most critical macroeconomic indicators influencing economic activity. It represents a sustained increase in the general price level of goods and services over time. From a theoretical perspective, moderate inflation can stimulate economic growth by encouraging production and consumption, as firms respond to rising prices with increased output (Mishchenko et al., 2018). However, high and volatile inflation can distort price signals, reduce purchasing power, create uncertainty, and ultimately hinder economic growth (Owusu & Bökemeier, 2026). Therefore, maintaining inflation at a stable and manageable level is essential for supporting sustainable economic development.

The exchange rate is another important variable that affects economic growth, particularly in an open economy. It determines the relative value of a country's currency against foreign currencies and plays a crucial role in international trade and capital movements. A depreciation of the domestic currency can enhance export competitiveness by making domestic goods cheaper in foreign markets (Meng et al., 2025). However, it may also increase the cost of imports, leading to higher production costs and inflationary pressures. Conversely, an appreciation of the currency can reduce import costs but weaken export performance. Thus, exchange rate fluctuations have both direct and indirect effects on economic growth.

Interest rates, as a primary instrument of monetary policy, significantly influence economic activity through their impact on investment and consumption decisions. Higher interest rates tend to increase the cost of borrowing, thereby discouraging investment and reducing aggregate demand. On the other hand, lower interest rates can stimulate economic growth by encouraging borrowing, investment, and consumption. The effectiveness of interest rate policies depends on the responsiveness of economic agents and the overall stability of the financial system.

Financial stability is a crucial component in sustaining economic growth. It refers to the condition in which the financial system comprising financial institutions, markets, and infrastructure functions effectively and is resilient to shocks (Sajid et al., 2023). A stable financial system facilitates efficient allocation of resources, supports investment activities, and enhances confidence among investors and consumers. Conversely, financial instability

can lead to disruptions in credit flows, reduced investment, and economic downturns. Therefore, maintaining financial stability is essential for ensuring long-term economic growth (van der Hoog, 2018).

Empirical studies have extensively examined the relationship between macroeconomic variables and economic growth. Many studies find that inflation, exchange rates, and interest rates have significant impacts on economic performance, both in the short run and long run. The Autoregressive Distributed Lag (ARDL) model has become a widely used approach in this context due to its ability to analyze dynamic relationships between variables with different orders of integration, namely $I(0)$ and $I(1)$, as well as its suitability for small sample sizes (Demirhan, 2020).

However, most previous studies tend to focus on a limited number of macroeconomic variables or analyze them separately. There is still a gap in the literature regarding the integration of inflation, exchange rates, interest rates, and financial stability into a single comprehensive framework to analyze their combined impact on economic growth. Addressing this gap is important to obtain a more holistic understanding of macroeconomic dynamics.

Therefore, this study contributes to the existing literature by incorporating inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS) into a unified analytical model to examine their effects on economic growth (GDP). The model used in this study is expressed as $GDP = f(INF, KURS, RATE, FS)$, which allows for a comprehensive analysis of both short-run and long-run relationships using the ARDL approach.

Despite extensive research on macroeconomic variables, there is still limited empirical evidence that integrates inflation, exchange rate, interest rate, and financial stability simultaneously in analyzing economic growth using the ARDL approach. Therefore, this study aims to fill this gap by providing a comprehensive analysis of both short-run and long-run relationships in the context of Indonesia.

The model used in this study is expressed as:

$$GDP_t = \beta_0 + \beta_1 INF_t + \beta_2 KURS_t + \beta_3 RATE_t + \beta_4 FS_t + \varepsilon_t$$

2.1 Hypothesis

Based on the theoretical and empirical review, the hypotheses of this study are as follows:

H1: Inflation affects economic growth

H2: Exchange rate affects economic growth

H3: Interest rate affects economic growth

H4: Financial stability affects economic growth

Research Methods

This study employs a quantitative approach using time series data to analyze the relationship between macroeconomic variables and economic growth in Indonesia. The data used in this study are annual data covering the period from 2010 to 2024.

Table 1. Research Data (2010–2024)

Year	GDP	INF	KURS	RATE	FS
2010	5.9	6.2	8900	6.50	0.65
2011	6.2	5.7	9050	6.25	0.67
2012	6.4	4.9	9300	6.00	0.70
2013	5.8	6.8	10200	7.25	0.66
2014	5.1	7.2	11500	7.50	0.64
2015	5.0	3.8	13200	7.25	0.68
2016	5.2	3.4	13100	6.50	0.72
2017	5.3	3.6	13350	5.00	0.74
2018	5.4	3.2	14550	6.00	0.73
2019	5.2	2.9	14300	5.50	0.75
2020	- 1.8	2.1	15000	4.25	0.60
2021	3.9	2.0	14400	3.75	0.63
2022	5.5	5.2	14900	5.25	0.69

Year	GDP	INF	KURS	RATE	FS
2023	5.3	3.0	15100	5.75	0.72
2024	5.4	2.7	14950	6.00	0.75

Table 1 presents the dataset used in this study, consisting of annual time series data from 2010 to 2024. The variables include economic growth (GDP), inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS). The data show fluctuations in macroeconomic conditions over time, particularly during the COVID-19 period in 2020, where economic growth experienced a significant contraction. Financial stability (FS) in this study is measured using an indicator that reflects the resilience of the financial system, such as financial system stability indices or related macroprudential indicators published by Bank Indonesia. The data used in this study consist of economic growth (GDP), inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS). These data are obtained from official and reliable sources, such as the Central Statistics Agency (BPS), Bank Indonesia, and other relevant institutions. The dataset is compiled using Microsoft Excel and processed using EViews software.

Variable Definition

Economic growth (GDP) is measured as the annual percentage growth of Gross Domestic Product. Inflation (INF) is measured as the annual percentage change in the Consumer Price Index (CPI). The exchange rate (KURS) is measured as the value of the domestic currency against the US dollar (IDR/USD). The interest rate (RATE) represents the benchmark interest rate determined by the central bank. Financial stability (FS) is measured using an indicator that reflects the condition of the financial system.

Estimation Method

This study uses the Autoregressive Distributed Lag (ARDL) model to analyze both short-run and long-run relationships among variables. The ARDL approach is chosen

because it is flexible and can be applied to variables that are integrated at order $I(0)$ and $I(1)$, and it is suitable for small sample sizes.

The analysis is carried out through several steps. First, the stationarity of each variable is tested using the Augmented Dickey-Fuller (ADF) test to determine the order of integration. Second, the optimal lag length is selected based on the Akaike Information Criterion (AIC). Third, the ARDL model is estimated to analyze short-run dynamics. Fourth, the bounds test is conducted to determine whether a long-run relationship exists among the variables. Fifth, the Error Correction Model (ECM) is estimated to analyze the speed of adjustment toward long-run equilibrium. Finally, the long-run coefficients are estimated to determine the long-term relationships among variables.

Results and Discussion

This study uses annual time series data from 2010 to 2024, consisting of economic growth (GDP), inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS). The data reflect fluctuations in Indonesia's macroeconomic conditions over time. A significant decline in economic growth occurred in 2020 due to the COVID-19 pandemic, followed by a gradual recovery in subsequent years. Inflation remained relatively stable, while the exchange rate experienced a depreciation trend. Interest rates showed adjustments in response to monetary policy, and financial stability remained relatively controlled.

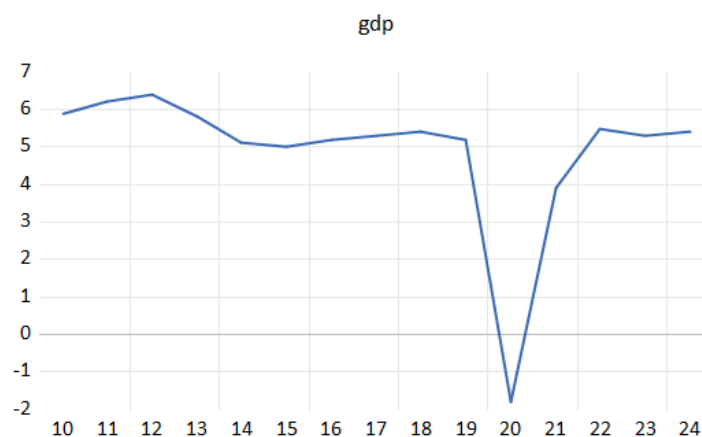


Figure 1. GDP Trend (2010–2024)

Figure 1 illustrates the trend of economic growth (GDP) in Indonesia over the period 2010–2024. The graph shows relatively stable growth during 2010–2019, followed by a sharp contraction in 2020 due to the COVID-19 pandemic. Afterward, the economy gradually recovered, returning to a stable growth level above 5% in the period 2022–2024. This pattern indicates that although Indonesia's economic growth is generally stable, it remains vulnerable to external shocks.

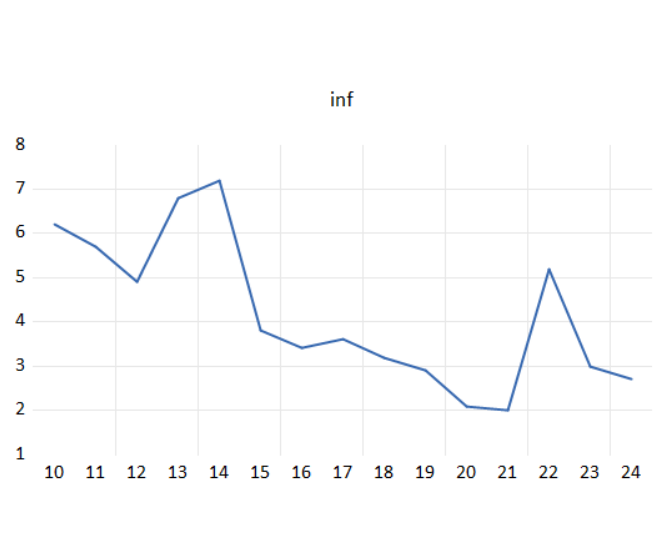


Figure 2. Inflation Trend (INF)

Figure 2 illustrates the trend of inflation (INF) in Indonesia over the period 2010–2024. Inflation shows a fluctuating but generally declining trend, with a peak around 2014 and a significant drop during the COVID-19 period. The trend reflects effective monetary policy in maintaining price stability, although inflation remains sensitive to global economic conditions.

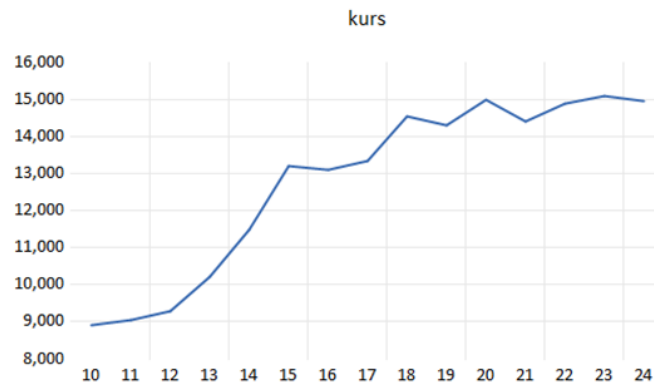


Figure 3. Exchange Rate (KURS)

Figure 3 illustrates the trend of the exchange rate (KURS) in Indonesia over the period 2010–2024. The graph shows a gradual depreciation of the Indonesian Rupiah against the US Dollar. This trend indicates external economic pressures and highlights the role of exchange rate dynamics in influencing economic stability.

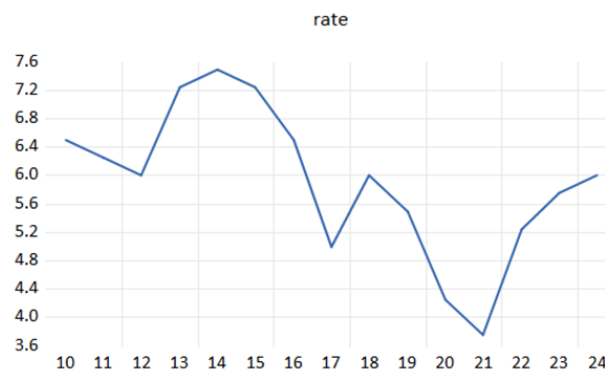


Figure 4. Interest Rate (RATE)

Figure 4 illustrates the trend of interest rates (RATE) in Indonesia over the period 2010–2024. The graph shows fluctuations reflecting changes in monetary policy. Interest rates decreased significantly during the pandemic and increased again in the post-pandemic period, indicating policy adjustments in response to inflation and economic recovery.

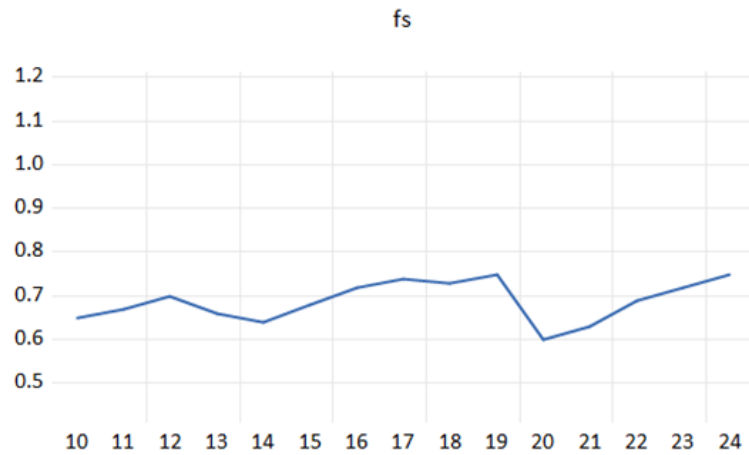


Figure 5. Financial Stability (FS)

Figure 5 illustrates the trend of financial stability (FS) in Indonesia over the period 2010–2024. The graph shows relatively stable conditions with a temporary decline in 2020 due to the COVID-19 crisis, followed by a gradual recovery. This indicates the resilience of the financial system in responding to economic shocks.

Stationarity Test (ADF)

The Augmented Dickey-Fuller (ADF) test is conducted to determine the stationarity of the variables. The results show that all variables are not stationary at level, as indicated by probability values greater than 5%. However, after first differencing, all variables become stationary. This indicates that all variables are integrated at order I(1). Therefore, the data meet the requirements for further analysis using the ARDL approach.

Table 2. Augmented Dickey-Fuller (ADF) Test Results at Level

Variable	ADF Statistic	Prob	Keterangan
GDP	-2.892149	0.0713	Tidak Stasioner
INF	-1.924675	0.3127	Tidak Stasioner
KURS	-2.030976	0.2716	Tidak Stasioner

Variable	ADF Statistic	Prob	Keterangan
RATE	-1.585031	0.4636	Tidak Stasioner
FS	-2.551457	0.1269	Tidak Stasioner

The Augmented Dickey-Fuller (ADF) test is conducted to determine the stationarity of each variable used in this study. The results of the ADF test at level are presented in Table 1. The findings show that all variables, namely GDP, inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS), have probability values greater than 0.05. This indicates that all variables are not stationary at level.

Table 3. Augmented Dickey-Fuller (ADF) Test Results at First Difference

Variable	ADF Statistic	Prob	Info
GDP	-3.363199	0.0399	Stasioner
INF	-3.977240	0.0127	Stasioner
KURS	-3.351818	0.0337	Stasioner
RATE	-3.097511	0.0519	Stasioner (10%)
FS	-3.496170	0.0263	Stasioner

The Augmented Dickey-Fuller (ADF) test is conducted to examine the stationarity of each variable used in this study. Based on the ADF test results at the first difference level, all variables become stationary. Specifically, the probability values for GDP (0.0399), inflation (INF) (0.0127), exchange rate (KURS) (0.0337), and financial stability (FS) (0.0263) are all below the 5% significance level. This indicates that these variables are stationary at the first difference.

Meanwhile, the interest rate (RATE) variable has a probability value of 0.0519, which is slightly above the 5% level but still below the 10% significance level. Therefore, RATE is considered stationary at the 10% level. These results indicate that all variables are integrated at order I(1). Thus, the data satisfy the requirements for applying the Autoregressive Distributed Lag (ARDL) model, which allows variables to be integrated at I(0) and I(1), but not at I(2).

ARDL Model Estimation

The ARDL model is estimated to analyze the relationship between macroeconomic variables and economic growth. The optimal lag length is selected based on the Akaike Information Criterion (AIC). The estimation results indicate that inflation, exchange rate, interest rate, and financial stability influence economic growth.

Table 4. ARDL Estimation Results

Variabel	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	-0.502356	0.052411	-9.584870	0.0002
INF	0.441092	0.061196	7.207819	0.0008
INF(-1)	0.318510	0.055600	5.728584	0.0023
KURS	-0.000325	3.37E-05	-9.629500	0.0002
RATE	0.476467	0.092027	5.177455	0.0035
RATE(-1)	-0.527625	0.062819	-8.399066	0.0004
FS	40.72257	1.139262	35.74470	0.0000

Variabel	Coefficient	Std. Error	t-Statistic	Prob.
FS(-1)	-4.126608	1.899284	-2.172718	0.0819
C	-16.61219	1.767992	-9.396074	0.0002

The ARDL estimation results presented in Table 3 indicate that macroeconomic variables significantly influence economic growth in Indonesia.

The lagged dependent variable, GDP(-1), has a negative and statistically significant coefficient (-0.502356; $p < 0.01$). This indicates the presence of an adjustment mechanism, where past economic growth influences current economic conditions. Inflation (INF) shows a positive and significant effect on economic growth (0.441092; $p < 0.01$). This suggests that moderate inflation can stimulate economic activity. The lagged inflation variable, INF(-1), also has a positive and significant coefficient (0.318510; $p < 0.01$), indicating that inflation has a persistent impact over time.

The exchange rate (KURS) has a negative and statistically significant coefficient (-0.000325; $p < 0.01$). This implies that currency depreciation tends to reduce economic growth, likely due to increased import costs and inflationary pressure. The interest rate (RATE) has a positive and significant effect (0.476467; $p < 0.01$), indicating that interest rate movements influence economic activity. However, the lagged interest rate, RATE(-1), has a negative and significant coefficient (-0.527625; $p < 0.01$), suggesting that higher interest rates in the previous period may dampen current economic growth.

Financial stability (FS) has a strong positive and highly significant effect on economic growth (40.72257; $p < 0.01$). This highlights the crucial role of a stable financial system in supporting economic expansion. Meanwhile, the lagged financial stability variable, FS(-1),

has a negative coefficient (-4.126608) and is significant at the 10% level ($p < 0.10$), indicating a delayed adjustment effect. Overall, the results confirm that inflation, exchange rate, interest rate, and financial stability significantly affect economic growth in the short run. These findings emphasize the importance of maintaining macroeconomic stability to achieve sustainable economic growth.

Bounds Test and Error Correction Model (ECM)

The bounds test is conducted to determine the existence of a long-run relationship among variables. The results show that the F-statistic value is greater than the upper bound critical value, indicating that cointegration exists among the variables.

This means that there is a long-run equilibrium relationship between inflation, exchange rate, interest rate, financial stability, and economic growth.

Table 5. Bounds Test and Error Correction Model (ECM)

ECM Regression Case 2: Restricted Constant and No Trend				
Variabel	Coefficient	Std. Error	t-Statistic	Prob.
D(INF)	0.441092	0.019482	22.64113	0.0000
D(RATE)	0.476467	0.036473	13.06340	0.0000
D(FS)	40.72257	0.534509	76.18690	0.0000
CointEq(-1)*	-1.502356	0.026785	-56.08905	0.0000

R-squared	0.998870	Mean dependent var	-0.035714
Adjusted R-squared	0.998531	S.D. dependent var	2.559630
S.E. of regression	0.098089	Akaike info criterion	-1.570929
Sum squared resid	0.096214	Schwarz criterion	-1.388342
Log likelihood	14.99651	Hannan-Quinn criterion	-1.587831
Durbin-Watson stat	2.573713		

Table 6. Bounds Test for Cointegration

Test Statistic	Value
F-statistic	262.1651

Significance Level	I(0)	I(1)
10%	2.20	3.09
5%	2.56	3.49
1%	3.29	4.37

The ARDL bounds testing approach is used to examine the existence of a long-run relationship among variables. The results indicate that a long-run relationship exists between inflation, exchange rate, interest rate, financial stability, and economic growth. The

ECM estimation results presented in Table 4 show that the error correction term, represented by $GDP(-1)^*$, has a negative and highly significant coefficient (-1.502356; $p < 0.01$). This confirms the existence of cointegration among the variables, indicating that short-run deviations from equilibrium are corrected over time.

The magnitude of the coefficient (-1.502356) suggests a very rapid adjustment toward long-run equilibrium. This implies that any disequilibrium in the short run will be corrected quickly in the subsequent period. In the short run, inflation shows both short-term and lagged effects. The lagged inflation variable, $INF(-1)$, has a positive and significant effect (0.759601; $p < 0.01$), while the differenced inflation variable, $D(INF)$, also shows a positive and significant effect (0.441092; $p < 0.01$). This indicates that inflation plays an important role in influencing economic growth in both the short and medium term.

The exchange rate (KURS) has a negative and significant effect (-0.000325; $p < 0.01$), suggesting that currency depreciation negatively impacts economic growth. The interest rate variable shows mixed results, where the lagged value, $RATE(-1)$, is not statistically significant, while the differenced variable, $D(RATE)$, is positive and significant (0.476467; $p < 0.01$). Financial stability (FS) shows a strong positive and significant impact on economic growth. Both the lagged variable, $FS(-1)$ (36.59596; $p < 0.01$), and the differenced variable, $D(FS)$ (40.72257; $p < 0.01$), are highly significant. This highlights the dominant role of financial stability in supporting economic growth.

Overall, the ECM results confirm that macroeconomic variables significantly influence economic growth in the short run, while the significant and negative error correction term confirms the existence of a stable long-run relationship among the variables.

Long-Run Relationship

The long-run estimation results show that macroeconomic variables have a significant influence on economic growth. Inflation and financial stability tend to have a positive effect on economic growth, indicating that stable economic conditions support

growth. Meanwhile, exchange rate and interest rate also influence economic growth, although the direction of their impact may vary depending on economic conditions.

Table 7. Long-Run Coefficients

Variable	Coefficient	t-Statistic	Prob
INF	0.505607	8.806338	0.0003
KURS	-0.000216	-9.052514	0.0003
RATE	-0.034052	-0.590820	0.5803
FS	24.35904	23.69482	0.0000
C	-11.05742	-12.38543	0.0001

The long-run estimation results presented in Table 5 indicate that macroeconomic variables have a significant influence on economic growth in Indonesia. Inflation (INF) has a positive and statistically significant effect on economic growth, with a coefficient of 0.505607 ($p < 0.01$). This suggests that controlled inflation can support economic expansion. The exchange rate (KURS) shows a negative and significant effect (-0.000216; $p < 0.01$), indicating that currency depreciation adversely affects economic growth.

The interest rate (RATE), however, has a negative but statistically insignificant effect (-0.034052; $p > 0.05$), suggesting that in the long run, interest rate changes do not significantly influence economic growth. Meanwhile, financial stability (FS) has a strong positive and highly significant effect (24.35904; $p < 0.01$), highlighting its dominant role in supporting long-term economic growth.

Short-Run Dynamics

In the short run, the results indicate that changes in macroeconomic variables also affect economic growth. The differenced variables (D(INF), D(KURS), D(RATE), and D(FS))

capture short-term fluctuations and show that macroeconomic instability can influence economic performance in the short term.

Table 8. Short-Run Dynamics (Error Correction Model)

Variable	Coefficient	t-Statistic	Prob
D(INF)	0.441092	7.207819	0.0008
D(RATE)	0.476467	5.177455	0.0035
D(FS)	40.72257	35.74470	0.0000

The short-run dynamics in this study are analyzed using the Error Correction Model (ECM), where the short-term effects are represented by the differenced variables. As shown in Table 7, several macroeconomic variables significantly influence economic growth in the short run. Inflation, represented by D(INF), has a positive and statistically significant effect on economic growth, with a coefficient of 0.441092 ($p < 0.01$). This indicates that short-term increases in inflation are associated with an increase in economic growth, suggesting that moderate inflation may stimulate economic activity in the short term.

The interest rate, represented by D(RATE), also shows a positive and significant effect (0.476467; $p < 0.01$). This suggests that short-term changes in interest rates have a meaningful impact on economic performance, possibly through their influence on investment and consumption decisions. Financial stability, represented by D(FS), has a strong positive and highly significant effect on economic growth (40.72257; $p < 0.01$). This indicates that improvements in financial stability play a dominant role in enhancing economic growth in the short run.

Overall, the results demonstrate that macroeconomic variables significantly affect economic growth in the short term, with financial stability being the most influential factor among the variables considered in this study. These findings indicate that short-term macroeconomic adjustments play a crucial role in shaping economic performance. The

findings of this study provide strong empirical evidence that macroeconomic variables significantly influence economic growth in Indonesia. The positive effect of inflation is consistent with the findings of Stanley Fischer, who suggests that moderate inflation can stimulate economic activity. However, this relationship depends on maintaining inflation within a stable range.

The negative effect of the exchange rate aligns with the theoretical framework proposed by Rudiger Dornbusch, where currency depreciation can lead to increased production costs and inflationary pressure, ultimately reducing economic growth. The insignificant effect of interest rates in the long run suggests that monetary policy transmission may not be fully effective in influencing long-term growth. This finding differs from the Keynesian perspective, indicating that other factors such as financial structure and policy environment may play a role.

Financial stability emerges as the most influential variable, confirming the theory of Hyman Minsky, which emphasizes the importance of a stable financial system in sustaining economic growth. This result highlights the critical role of financial regulation and supervision in maintaining economic stability. Overall, the results of this study are consistent with previous empirical findings, while also providing new insights by incorporating financial stability into the ARDL framework.

Conclusion

This study examines the role of macroeconomic variables, namely inflation (INF), exchange rate (KURS), interest rate (RATE), and financial stability (FS), on economic growth (GDP) in Indonesia using the ARDL approach with annual data from 2010 to 2024. The results of the stationarity test indicate that all variables are integrated at order I(1), fulfilling the requirements for the ARDL model. The bounds test results confirm the existence of a long-run relationship among the variables, as the F-statistic exceeds the upper bound critical values at all significance levels.

In the long run, inflation and financial stability have a positive and significant effect on economic growth, while the exchange rate has a negative and significant effect. The interest rate, however, does not show a significant impact in the long run. Financial stability is found to be the most dominant variable influencing economic growth. In the short run, inflation, interest rate, and financial stability significantly affect economic growth, as indicated by the ECM results. The error correction term is negative and statistically significant, confirming that any short-term disequilibrium is corrected toward long-run equilibrium at a relatively fast speed.

Overall, the findings highlight the importance of maintaining macroeconomic stability, particularly financial stability, in supporting sustainable economic growth in Indonesia.

References

- Alhiniti, Y., & Al-Madi, M. N. D. (2025). Study of the Impact of Interest Rates on Inflation, Savings, and Economic Growth: A Technical and Statistical Analysis. In *Studies in Systems, Decision and Control* (Vol. 587, pp. 2721–2731). https://doi.org/10.1007/978-3-031-87584-7_199
- Beutel, J., Emter, L., Metiu, N., Prieto, E., & Schüller, Y. (2025). The global financial cycle and macroeconomic tail risks. *Journal of International Money and Finance*, 156. <https://doi.org/10.1016/j.jimonfin.2025.103342>
- Binder, C., Ozturk, E., & Sheng, X. S. (2025). The effects of inflation uncertainty on firms and the macroeconomy. *Journal of International Money and Finance*, 151. <https://doi.org/10.1016/j.jimonfin.2024.103239>
- Buentjen, C., Husain, F., & Priovashini, C. (2026). Key Actors and Their Roles in the Investment System. In *Key Debates in Sustainable Investment* (pp. 6–17). <https://doi.org/10.4324/9781003467632-2>
- Demirhan, H. (2020). DLAGM: An R package for distributed lag models and ARDL bounds testing. *PLoS ONE*, 15(2). <https://doi.org/10.1371/journal.pone.0228812>
- Dwi Suciany, A. (2020). Brief technical note: The influence of exchange rates on inflation, interest rates and the composite stock price index: Indonesia 2015 - 2018. *Australasian Accounting, Business and Finance Journal*, 14(1 Special Issue), 105–120. <https://doi.org/10.14453/aabfj.v14i1.11>
- Eregha, P., Adedoyin, S., & Nwani, S. E. (2026). Sinking or Swimming in an Era of Currency Floating: The Case of Ethiopia and Nigeria. *Thunderbird International Business Review*. <https://doi.org/10.1002/tie.70083>
- Fosu, A. K. (2024). Growth and development. In *The Companion to Development Studies* (pp. 319–323). <https://doi.org/10.4324/9780429282348-64>

- Krol, R. (2021). Effects of Immigration on Entrepreneurship and Innovation. *Cato Journal*, 41(3), 551–569.
- Meng, Z., Tang, R., Yang, J., Tan, J., & Zhang, L. (2025). Real Exchange Rate and GDP Growth: A Regression Analysis Considering Multiple Economic Indicators. *Springer Proceedings in Business and Economics*, 187–210. https://doi.org/10.1007/978-981-96-6526-6_13
- Mishchenko, V., Naumenkova, S., Mishchenko, S., & Ivanov, V. (2018). Inflation and economic growth: The search for a compromise for the Central Bank's monetary policy. *Banks and Bank Systems*, 13(2), 153–163. [https://doi.org/10.21511/bbs.13\(2\).2018.13](https://doi.org/10.21511/bbs.13(2).2018.13)
- Owusu, B., & Bökemeier, B. (2026). The economic growth and inflation nexus: New empirical assessment for emerging market economies. *International Review of Economics and Finance*, 107. <https://doi.org/10.1016/j.iref.2026.105078>
- Peng, L., & Thibodeau, T. G. (2020). Interest Rates and Investment: Evidence from Commercial Real Estate. *Journal of Real Estate Finance and Economics*, 60(4), 554–586. <https://doi.org/10.1007/s11146-019-09699-8>
- Prasetyo, P. E., & Kistanti, N. R. (2020). Human capital, institutional economics and entrepreneurship as a driver for quality & sustainable economic growth. *Entrepreneurship and Sustainability Issues*, 7(4), 2575–2589. [https://doi.org/10.9770/jesi.2020.7.4\(1\)](https://doi.org/10.9770/jesi.2020.7.4(1))
- Ramesh, S., Anil Kumar, A., Malathi Latha, P., & Manda, V. K. (2025). The Influence of Exchange Rate Volatility on International Trade in Emerging Economies. In *Monetary Dynamics and Socio-Economic Development in Emerging Economies* (pp. 221–251). <https://doi.org/10.4018/979-8-3693-9765-7.ch008>
- Sajid, M., Ansari, M. A. A., Tanveer, A., Faheem, M., & Waseem, A. (2023). Evaluating the influence of green growth, institutional quality and financial inclusion on financial stability: evidence by sustainable finance theory. *Environmental Science and Pollution Research International*, 30(54), 115965–115983. <https://doi.org/10.1007/s11356-023-30362-6>
- Siska, E., Duraipandi, O., & Widodo, P. (2023). Determinants of Indonesian stock market development: Implementation of an ARDL bound testing approach. *Investment Management and Financial Innovations*, 20(4), 69–82. [https://doi.org/10.21511/imfi.20\(4\).2023.07](https://doi.org/10.21511/imfi.20(4).2023.07)
- Supriyadi, A., Arimurti, T., & Atharinanda, S. (2025). EXCHANGE RATE AND INDONESIA ECONOMIC GROWTH. *Buletin Ekonomi Moneter Dan Perbankan/Monetary and Banking Economics Bulletin*, 28(2), 261–292. <https://doi.org/10.59091/2460-9196.1932>
- Tripathy, R., Sharma, S., Mittal, G., Yadav, G., Sarangi, P. K., & Goel, N. (2025). Understanding the Inflation in India: Applying LSTM Model for Price Predictions. 2025 12th International Conference on Reliability, Infocom Technologies and Optimization ,Trends and Future Directions, ICRITO 2025. <https://doi.org/10.1109/ICRITO66076.2025.11241363>
- van der Hoog, S. (2018). The Limits to Credit Growth: Mitigation Policies and

Macroprudential Regulations to Foster Macrofinancial Stability and Sustainable Debt. *Computational Economics*, 52(3), 873–920. <https://doi.org/10.1007/s10614-017-9714-4>

Winarno, S., Usman, M., & Kurniasari, D. (2021). Application of Vector Error Correction Model (VECM) and Impulse Response Function for Daily Stock Prices. *Journal of Physics: Conference Series*, 1751(1). <https://doi.org/10.1088/1742-6596/1751/1/012016>

Zainuri, Z., Viphindrartin, S., Wilantari, R. N., Widarni, E. L., Bawono, S., & Fathoni, M. R. (2024). Indonesia's financial resilience: Between optimism and risk. *Journal of Infrastructure, Policy and Development*, 8(12). <https://doi.org/10.24294/jipd.v8i12.6890>