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Macroeconomic Determinants of Foreign Direct Investment in Indonesia: The Role of GDP, Inflation, and Exchange Rate (1990–2023)

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ABSTRACT

This study explores the influence of key macroeconomic indicators—Gross Domestic Product (GDP), inflation, and exchange rate—on Foreign Direct Investment (FDI) inflows in Indonesia from 1990 to 2023. Using the Error Correction Model (ECM), the research analyzes both long-term and short-term dynamics to offer a more comprehensive understanding of the relationship between these variables and FDI performance. The results show that GDP has a significant positive effect on FDI in both time horizons, reinforcing the notion that economic growth enhances investor confidence and market potential. In contrast, inflation does not exhibit a significant effect on FDI, suggesting that investors may perceive inflation in Indonesia as relatively stable and manageable. The exchange rate demonstrates a dual effect: it negatively affects FDI in the long term, indicating that prolonged currency depreciation deters investment, while in the short term, it positively influences FDI, as a weaker rupiah may reduce investment costs. Diagnostic tests confirm the reliability and validity of the regression model, including the absence of multicollinearity, heteroskedasticity, and autocorrelation. The study concludes that GDP and exchange rate stability are crucial for attracting and sustaining foreign investment, while inflation remains a less decisive factor in the Indonesian context. These findings offer practical implications for policymakers to prioritize macroeconomic stability and growth-oriented strategies to enhance Indonesia's competitiveness as an FDI destination.

Keywords: economic growth, exchange rate, foreign direct investment, gdp, inflation

I. INTRODUCTION

Foreign Direct Investment (FDI) has emerged as a pivotal component in the development strategy of many developing countries, including Indonesia. As domestic financial resources often fall short in meeting the capital requirements for sustained economic growth, external funding through FDI becomes an indispensable alternative (Anindita, Putri, & Wulandari, 2021). Unlike domestic investment, FDI does not merely provide capital inflows; it also introduces technology transfers, enhances managerial expertise, fosters employment creation, and bolsters industrial competitiveness—thus serving as a multidimensional catalyst for development (Sihombing & Santosa, 2022).

Indonesia's experience with FDI over the past three decades reveals a complex trajectory shaped by both domestic policies and global economic shifts. Data from the Investment

Coordinating Board and BPS show that between 1990 and 2023, FDI inflows to Indonesia have generally increased but have been characterized by marked fluctuations. The Asian Financial Crisis of 1997–1998 stands out as a turning point, leading to a dramatic drop in investor confidence and capital withdrawals (Yuliana & Santoso, 2023). Subsequently, throughout the early 2000s, FDI remained relatively subdued due to the lingering effects of the global economic crisis and internal macroeconomic instability.

The introduction of Law No. 25 of 2007 concerning Investment marked a new phase in Indonesia's FDI policy landscape. The law aimed to create a more conducive environment by ensuring legal certainty, simplifying procedures, and offering fiscal incentives (Gunawan & Lestari, 2022). These efforts contributed to a resurgence in FDI, particularly from 2007 onward. Moreover, the enactment of the Omnibus Law on Job Creation in 2020 signaled Indonesia's renewed commitment to regulatory reform and economic liberalization. As a result, FDI in recent years has increasingly shifted toward high-tech and export-oriented sectors, diverging from the domestic investment trend that remains focused on consumption and services (Dwitayanti et al., 2024).

Remarkably, despite the COVID-19 pandemic and global economic uncertainty, Indonesia's FDI inflows hit a record high of USD 50.27 billion in 2023. This surge reflects not only the country's improved macroeconomic stability but also the government's proactive policy response and long-term reform agenda (BPS, 2025). It underscores the strategic importance of macroeconomic fundamentals in shaping investor perceptions and decisions.

Among these macroeconomic indicators, Gross Domestic Product (GDP), inflation, and exchange rate are considered critical determinants of FDI. A growing GDP signals an expanding market, which increases investor confidence in demand prospects (Nasution & Hartanto, 2021). Low and stable inflation reflects sound macroeconomic management and minimizes cost uncertainty for foreign businesses. Meanwhile, the exchange rate plays a dual role: while depreciation can lower investment costs in local currency terms, excessive volatility may elevate perceived risk and deter capital inflows (Sukmawati & Arifianto, 2023).

However, empirical studies on the relationship between these variables and FDI in Indonesia have yielded mixed findings. Some research highlights the positive influence of GDP and the negative effects of inflation and exchange rate volatility, while others find insignificant or contradictory outcomes depending on the period and methodological approach used (Putra & Fitriana, 2020; Wijaya & Prasetyo, 2021). These inconsistencies underscore the need for a more comprehensive and updated analysis that captures long-term trends and considers the evolving nature of Indonesia's investment environment.

Given this context, this study seeks to examine the simultaneous impact of GDP, inflation, and exchange rate on FDI in Indonesia over the period 1990 to 2023. By employing time-series data over a long horizon, the research aims to provide nuanced insights into the macroeconomic drivers of foreign investment. The findings are expected to contribute to the formulation of more effective and evidence-based policies that enhance Indonesia's attractiveness as a destination for sustainable foreign capital inflows.

II. LITERATURE REVIEW

Foreign Direct Investment (FDI) plays a vital role in the economic development of emerging economies by filling the investment gap that cannot be fully financed through domestic savings and capital. In the context of Indonesia, FDI referred to as Penanaman Modal Asing (PMA) is legally defined in Law No. 25 of 2007 as any investment activity conducted within the territory of the Republic of Indonesia by foreign investors, either fully owned by foreign capital or in partnership with domestic investors (Tambunan, 2021). PMA is not merely a financial injection but

also serves as a channel for technology transfer, the development of human capital, enhancement of production capacity, and broader access to international markets (Sabrina & Soebagiyo, 2024). Its long-term contribution, particularly through the real sector, makes FDI a preferred and strategic investment mechanism compared to short-term portfolio flows.

A widely accepted theoretical framework to explain FDI is the OLI paradigm introduced by John Dunning in 1993. This theory posits that FDI decisions are influenced by three sets of advantages: ownership advantages (O), which relate to the proprietary assets or capabilities of the firm; location advantages (L), which refer to the host country's attributes; and internalization advantages (I), which justify the control over foreign operations rather than licensing or outsourcing (Zulfa & Millati, 2023). In Indonesia's case, location advantages are particularly salient, given the country's rich natural resources, large and youthful population, and continued growth prospects. These factors make Indonesia a target for market-seeking, resource-seeking, and efficiency-seeking investors all three motives outlined in Dunning's extended model.

Among the macroeconomic factors influencing FDI, Gross Domestic Product (GDP) is often regarded as a leading indicator. A growing GDP reflects a healthy and expanding economy, signaling increasing consumer demand and production potential. High GDP levels are typically interpreted by investors as a sign of market strength and long-term profitability, thereby enhancing a country's appeal as an investment destination (Ramadhan & Hidayat, 2022). Empirical studies in Southeast Asia have consistently shown that higher GDP positively correlates with FDI inflows (Yusuf & Hendrawan, 2021). In Indonesia, GDP growth has historically played a significant role in attracting foreign investment, particularly in the manufacturing and infrastructure sectors, where market scale and resource availability are critical.

Inflation, on the other hand, can have an adverse impact on FDI. While moderate inflation is considered a sign of healthy economic activity, high and volatile inflation is typically associated with macroeconomic instability, rising costs, and declining purchasing power. According to Sukirno (2021), persistent inflation erodes investor confidence as it increases the uncertainty of input costs and may lead to diminished profit margins. High inflation also often necessitates monetary tightening, which can raise interest rates and borrowing costs—further discouraging investment. Empirical studies suggest that foreign investors prefer stable inflationary environments where price signals remain predictable (Putri & Nugroho, 2023). Countries with prolonged inflation volatility often struggle to maintain long-term FDI commitments, as firms seek safer and more predictable markets.

Exchange rate dynamics represent another crucial determinant of FDI. The exchange rate affects both the valuation of investment and the perception of risk. A depreciating domestic currency may initially encourage FDI because foreign investors can acquire local assets at a lower cost. However, excessive or abrupt currency fluctuations may increase perceived financial risk and discourage long-term investments (Pratiwi, 2020). Research indicates that while exchange rate levels influence the cost competitiveness of local assets, it is the stability of the exchange rate that foreign investors value most (Wijaya & Harahap, 2022). For example, during periods of Rupiah volatility, Indonesia experienced declining investor sentiment despite favorable investment incentives, underscoring the importance of currency predictability.

Studies that have assessed the collective impact of GDP, inflation, and exchange rates on FDI in Indonesia present mixed findings. While some show that GDP exerts a significant positive influence and inflation and exchange rate volatility exert negative impacts, others find insignificant or inconsistent relationships depending on the estimation techniques and time frames applied (Rahmawati & Sutrisno, 2021). These inconsistencies highlight the importance of conducting updated and comprehensive studies using extended data periods to account for structural changes in Indonesia's macroeconomic and regulatory landscape, especially after major reforms

such as the Job Creation Law (Undang-Undang Cipta Kerja) introduced in 2020.

Furthermore, foreign investors consider the broader investment climate, which includes not only macroeconomic variables but also regulatory certainty, ease of doing business, and political stability. However, even within this broader context, macroeconomic fundamentals remain foundational in investment decision-making. A robust GDP reflects demand potential, low inflation ensures stable pricing, and a stable currency reduces exchange risk—all of which create a favorable environment for sustained FDI inflows.

Based on this theoretical and empirical context, this study proposes the following hypotheses: first, GDP has a significant positive effect on FDI inflows in Indonesia; second, inflation has a negative effect on FDI; and third, the exchange rate has a negative impact on FDI, particularly when accompanied by high volatility. Understanding the magnitude and direction of these relationships is essential for policymakers seeking to maintain Indonesia's competitiveness in the global investment landscape.

III. METHODS

The present study employs a quantitative approach using time series data covering the period from 1990 to 2023 and cross-sectional data from ten selected districts and cities in East Kalimantan Province. The data utilized in this research is secondary data, meaning it has been previously collected and published by recognized government and institutional sources. Key data points include Foreign Direct Investment (FDI), Gross Domestic Product (GDP), inflation, and exchange rate figures, all of which are obtained from the Central Bureau of Statistics (BPS), the Ministry of Trade (Kemendag), and World Bank Indonesia. To enrich the analysis and provide theoretical support, this research also draws from academic literature including peer-reviewed journals and relevant books.

To examine the long-term and short-term effects of macroeconomic variables on foreign investment, this study applies the Error Correction Model (ECM) method using EViews version 12. ECM is particularly suitable when variables are non-stationary at the level but cointegrated, allowing for the modeling of both equilibrium relationships and short-term dynamics. The ECM methodology begins with testing the stationarity of the time series data using unit root tests such as the Augmented Dickey-Fuller (ADF) test. This is followed by estimating the long-run equation to determine the equilibrium relationship among the variables. In this context, the long-run equation is formulated with natural logarithmic transformations for FDI, GDP, and exchange rate variables, while inflation remains in its percentage format. The transformation is essential to address differences in measurement scales and to reduce heteroscedasticity, as the variables in question include FDI in millions of US dollars, GDP in billions of US dollars, inflation as a percentage, and exchange rate in thousands of rupiah.

The resulting long-run model is expressed as $\ln FDI_t = \alpha 0 + \alpha 1 \ln GDP_t + \alpha 2 INF_t + \alpha 3 \ln EXC_t + et$, where FDI, GDP, and exchange rate are expressed in logarithmic form to enhance the interpretability of elasticities and stabilize variances. After establishing the long-run cointegration relationship, the short-run dynamic model is constructed by differencing the series and including an error correction term (ECT) derived from the residuals of the long-run equation. The short-run model takes the form $\Delta \ln FDI_t = \beta 0 + \beta 1 \Delta \ln GDP_t + \beta 2 \Delta INF_t + \beta 3 \Delta \ln EXC_t + \beta 4 ECT_{t-1} + et$, where the coefficient of the ECT represents the speed of adjustment toward long-run equilibrium. A negative and statistically significant ECT coefficient indicates the existence of cointegration and validates the ECM specification.

Subsequently, classical assumption tests are conducted to ensure the robustness of the regression model. These include tests for multicollinearity, heteroscedasticity, autocorrelation,

and linearity. The multicollinearity test is used to check whether high intercorrelations exist among the independent variables, which may distort the estimated coefficients. The variance inflation factor (VIF) and tolerance values are used as indicators in this context. The heteroscedasticity test examines whether the variance of the residuals is constant across observations, while the autocorrelation test assesses whether the residuals are independent over time. The linearity test is carried out to confirm whether the relationship between the dependent and independent variables is linear.

The final stage of the analysis involves statistical testing of the model. This includes the coefficient of determination (R-squared) to evaluate how well the independent variables explain variations in the dependent variable, the F-test to examine the joint significance of all explanatory variables, and the t-test to evaluate the individual significance of each independent variable. These statistical tools provide insight into both the explanatory power and the reliability of the model. Through this rigorous methodological approach, the study aims to produce valid empirical findings on how GDP, inflation, and exchange rate dynamics have influenced foreign direct investment flows in Indonesia over the past three decades.

IV. RESULTS AND DISCUSSION

This section presents the empirical findings on the influence of Gross Domestic Product (GDP), inflation, and exchange rate on Foreign Direct Investment (FDI) in Indonesia using the Error Correction Model (ECM). The analysis was conducted using time series data from 1990 to 2023. Prior to estimating the long-run and short-run relationships, several diagnostic tests were performed to ensure that the data met the necessary statistical assumptions. These included the stationarity test, cointegration test, and classical assumption tests such as multicollinearity, heteroskedasticity, and autocorrelation.

Unit Root Test (Stationarity Test)

Before conducting the regression analysis, it is essential to test whether each variable is stationary or not. Non-stationary variables can produce misleading regression results. The Augmented Dickey-Fuller (ADF) test was used to assess the stationarity of the variables at both level and first-difference forms. The results are presented in Table 1.

Table 1. Unit Root Test Results

No.	Variable	Level Prob.	Stationarity	First Difference Prob.	Stationarity
1	lnFDI	0.4864	Non-stationary	0.0001	Stationary
2	lnGDP	0.9206	Non-stationary	0.0020	Stationary
3	Inflation	0.7617	Non-stationary	0.0000	Stationary
4	lnEXCHANGE	0.3565	Non-stationary	0.0011	Stationary

Source: Data analysis, 2025

The results in Table 1 show that all four variables lnFDI, lnGDP, inflation, and lnExchange are non-stationary at the level form, as indicated by their probability values exceeding the 5% significance level. This implies that using these variables in their current form for regression analysis could result in spurious estimations. After differencing, however, each variable becomes stationary, as shown by the significantly lower probability values at the first difference. This finding validates the use of the ECM approach, which requires that variables be integrated of the same order and that cointegration exists among them.

Cointegration Test

Following the stationarity test, the next step is to assess whether a long-term equilibrium relationship exists among the variables. This was done by testing the residuals of the long-run model using the Engle-Granger cointegration test. The test result is summarized in Table 2.

Table 2. Cointegration Test Result

Variable	Test Statistic	Prob.	Description
ECT	-2.954021	0.0431	Cointegration exists

Source: Data analysis, 2025

Table 2 indicates that the error correction term (ECT) has a probability value of 0.0431, which is below the 5% significance level, and the coefficient is negative. These results satisfy the two main criteria for cointegration: statistical significance and a negative sign, confirming that a long-run equilibrium relationship exists between the dependent and independent variables. This suggests that although the variables were initially non-stationary, they move together over time, meaning their relationship is stable in the long run. Therefore, the ECM framework is appropriate for modeling both short-term deviations and long-term dynamics between FDI, GDP, inflation, and exchange rate.

Long-Run Estimation Results

After confirming the existence of cointegration, the next step is to estimate the long-run relationship between FDI and the macroeconomic variables: GDP, inflation, and exchange rate. The results of this estimation provide insight into how each independent variable affects FDI over the long term. Table 3 presents the long-run regression results obtained using the ECM approach.

Table 3. Long-Run Estimation Results

Variable	Coefficient	Prob.	Significance
Constant	-11.11630	0.0043	Significant
lnGDP	1.645662	0.0000	Significant
Inflation	0.006778	0.4174	Not Significant
lnExchange	-0.530797	0.0065	Significant

Source: Data analysis, 2025

The estimation shows that GDP has a positive and statistically significant impact on FDI in the long run. A 1% increase in GDP leads to a 1.6457% increase in FDI, holding other factors constant. This result confirms that a growing economy tends to attract more foreign investors, likely due to increased production capacity and a larger market size. In contrast, the exchange rate has a negative and significant effect on FDI, indicating that depreciation in the local currency discourages long-term foreign investment. Inflation, however, does not significantly affect FDI in the long run, as indicated by its high p-value of 0.4174. This suggests that long-term investors may not be deterred by inflation fluctuations within reasonable bounds, especially if the overall investment climate remains stable. Overall, the results validate the theoretical expectation that GDP and exchange rate stability are key considerations for long-term foreign investment decisions.

Short-Run Estimation Results

To complement the long-run findings, this section presents the short-run dynamic effects of GDP, inflation, and exchange rate on FDI. This is crucial to understand how changes in these variables affect foreign investment behavior in the near term. The estimation includes the Error Correction Term (ECT), which indicates the speed of adjustment back to equilibrium after a shock. The short-run results are displayed in Table 4.

Table 4. Short-Run Estimation (ECM) Results

Variable	Coefficient	Prob.	Significance
Constant	-0.192206	0.0317	Significant
D(lnGDP)	4.356993	0.0077	Significant
D(Inflation)	-0.002713	0.5658	Not Significant
D(lnExchange)	0.741462	0.0226	Significant
ECT(-1)	-0.436849	0.0031	Significant

Source: Data analysis, 2025

In the short term, GDP continues to exert a significant and even stronger positive effect on FDI, with a coefficient of 4.356993. This indicates that immediate increases in GDP growth can sharply stimulate foreign investment. The exchange rate also shows a significant positive influence in the short run, which contrasts with its long-run effect. This suggests that in the short term, a weaker local currency may reduce operational costs for foreign investors, thereby attracting FDI. The Error Correction Term (ECT) is negative and statistically significant, confirming that short-term disequilibrium is corrected toward the long-term relationship at a speed of 43.68% per year. However, inflation remains statistically insignificant in the short run, implying that temporary changes in inflation do not immediately affect foreign investors' decisions.

Multicollinearity Test Results

To ensure the reliability of the regression model, it is essential to test for multicollinearity, which refers to the presence of a strong correlation among independent variables. Multicollinearity can inflate the variance of coefficient estimates, leading to unstable and unreliable results. Table 5 below displays the Variance Inflation Factor (VIF) for each variable in the model.

Table 5. Multicollinearity Test Results

Variable	Centered VIF
Constant	NA
D(lnGDP)	1.673485
D(Inflation)	1.619947
D(lnExchange)	1.363467
ECT(-1)	1.280482

Source: Data analysis, 2025

As shown in Table 5, all variables have VIF values well below the critical threshold of 10. This indicates that multicollinearity is not present in the model, and the estimated coefficients are stable and interpretable. Low VIF values suggest that each independent variable contributes unique information in explaining variations in FDI. The absence of multicollinearity confirms that

the model does not suffer from inflated standard errors or redundancy among explanatory variables. This ensures the accuracy and robustness of the regression results, particularly when interpreting the significance and magnitude of the estimated coefficients.

Heteroskedasticity Test Results

Heteroskedasticity refers to a condition where the variance of residuals is not constant across observations. Detecting and addressing heteroskedasticity is important, as its presence may violate one of the classical linear regression assumptions and result in inefficient estimates. Table 6 presents the results of the Breusch-Pagan-Godfrey test.

Table 6. Heteroskedasticity Test Results

Test Statistic	Value	Prob.
F-statistic	0.660931	0.6243
Obs*R-squared	2.847008	0.5837

Source: Data analysis, 2025

The test results indicate that both the F-statistic and the Obs*R-squared p-values are greater than 0.05, confirming the absence of heteroskedasticity in the model. This means the variance of residuals is homoscedastic, and therefore, the assumption of equal variance is upheld. This strengthens the validity of the estimated coefficients, as no correction is needed for heteroskedasticity. As a result, the standard errors remain unbiased, and the statistical inference of the regression model is trustworthy.

Autocorrelation Test Results

Autocorrelation occurs when the residuals in a time series model are correlated across time, potentially leading to underestimated standard errors and overstated significance levels. The Breusch-Godfrey Serial Correlation LM Test was used to detect this issue, as shown in Table 7.

Table 7. Autocorrelation Test Results

Test Statistic	Value	Prob.
F-statistic	0.641342	0.5347
Obs*R-squared	1.551482	0.4604

Source: Data analysis, 2025

Since both the F-statistic and Obs*R-squared have p-values greater than 0.05, we can conclude that there is no autocorrelation in the model's residuals. This confirms the assumption that residuals are independently distributed over time. With no signs of autocorrelation, the model meets another critical requirement for time series regression, ensuring the credibility of coefficient significance and model forecasting capabilities.

Linearity Test Results

To verify whether the functional form of the regression model is correctly specified, the Ramsey RESET test is employed. This test helps determine if the model is linear or if higher-order terms are needed. Table 8 reports the findings.

Table 8. Linearity Test Results

Statistic	Value	Prob.
t-statistic	0.387332	0.7015
F-statistic	0.150026	0.7015
Likelihood Ratio	0.182857	0.6689

Source: Data analysis, 2025

All test statistics yield p-values well above 0.05, indicating that the null hypothesis of correct linear specification cannot be rejected. This implies that the regression model is linear in nature and there is no need to include non-linear terms. As the model passes the linearity test, we can be confident that the current functional form appropriately captures the relationship between macroeconomic variables and foreign direct investment.

Goodness-of-Fit (R^2) Test Results

Evaluating the model's explanatory power is essential to understand how well the independent variables collectively explain the variability in the dependent variable, Foreign Direct Investment (FDI). The coefficient of determination (R^2) and the adjusted R^2 provide insight into the model's fit, as shown in Table 9.

Table 9. Coefficient of Determination (R^2)

Statistic	Value
R-squared	0.552705
Adjusted R-squared	0.488806

Source: Data analysis, 2025

Based on the table, the adjusted R-squared value of 0.4888 indicates that approximately 48.88% of the variation in Foreign Direct Investment (FDI) in Indonesia from 1990 to 2023 can be explained by changes in GDP, inflation, and exchange rate. This suggests that the model has moderate explanatory power. The remaining 51.12% of the variation is attributed to other factors not included in the model, such as interest rates, political stability, trade openness, and global market trends. Nonetheless, an R^2 close to 0.5 is still acceptable for macroeconomic time series models involving long periods and multiple external shocks.

t-Test Results (Partial Significance)

The t-test is conducted to examine the individual influence of each independent variable on FDI in both magnitude and statistical significance. Table 10 summarizes the test results for each variable.

Table 10. t-Test Results

Variable	t-Statistic	t-table	Prob.
C	-2.261162	1.69726	0.0317
D(lnGDP)	2.868897		0.0077
D(Inflation)	-0.581102		0.5658
D(lnExchange)	2.414271		0.0226
ECT(-1)	-3.235673		0.0031

Source: Data analysis, 2025

From the table above, GDP (D(lnGDP)) and exchange rate (D(lnExchange)) both have t-statistics exceeding the critical value of 1.69726 and p-values below 0.05, indicating a significant effect on FDI. In contrast, inflation shows a p-value of 0.5658, suggesting that it does not significantly influence FDI during the period analyzed. The error correction term (ECT) is also significant, confirming that the short-run deviations from long-run equilibrium are corrected over time. These results imply that while inflation may not deter FDI significantly, the roles of economic growth and exchange rate stability are crucial in shaping investor decisions.

F-Test Results (Simultaneous Significance)

To determine whether all independent variables collectively have a significant effect on FDI, an F-test is conducted. This test helps assess whether the regression model, as a whole, is meaningful. Table 11 outlines the F-test result.

Table 11. F-Test Results

Variable	F-statistic	F-table	Prob(F-statistic)
Full model	8.649643	2.934	0.000112

Source: Data analysis, 2025

The table shows that the calculated F-statistic (8.649643) is significantly greater than the F-table critical value (2.934), and the associated probability value is far below the 5% significance level (0.000112 < 0.05). This confirms that GDP, inflation, and exchange rate, when considered together, have a significant joint effect on FDI in Indonesia. The significance of the overall model reinforces that macroeconomic fundamentals, as a group, are influential in explaining changes in foreign direct investment. Therefore, policymakers should maintain a stable and predictable economic environment to foster sustained foreign investment inflows.

he empirical findings from this study highlight distinct effects of macroeconomic variables on FDI in Indonesia over the 1990–2023 period. The results of the Error Correction Model (ECM) demonstrate that gross domestic product (GDP) and the exchange rate have significant impacts on FDI both in the long run and the short run, whereas inflation does not exhibit a statistically significant effect. This section provides a deeper interpretation of each variable's influence, supported by recent theoretical and empirical studies.

The analysis reveals that GDP has a positive and statistically significant effect on FDI in both time horizons. In the long term, a 1% increase in GDP is associated with a 1.645% rise in FDI, while in the short term, the effect is even more pronounced at 4.356%. These results confirm the hypothesis that a growing economy attracts foreign investors due to higher market potential, improved infrastructure, and greater consumer demand. A stable and expanding GDP reflects a strong economic performance and long-term profitability prospects for foreign businesses. This finding aligns with the study by Amalia and Ely (2022), which reported a significant relationship between GDP growth and FDI inflows in Indonesia. Furthermore, Tadesse et al. (2021) emphasized that emerging markets with sustained GDP growth tend to attract more strategic FDI, particularly in the manufacturing and services sectors.

In contrast, the effect of inflation on FDI appears insignificant in both the short and long term. The p-values obtained exceed the standard 5% threshold, indicating that inflation does not play a dominant role in investor decision-making during the observed period. This finding contradicts the classical assumption that high inflation discourages investment by increasing

business uncertainty and production costs. One plausible explanation is that Indonesia maintained relatively stable inflation throughout the study period, with an average of around 6.97%, which may have mitigated investor concerns. Moreover, foreign investors often hedge inflation risks or evaluate inflation differentials relative to their home countries. The study by Saragih et al. (2021) supports this interpretation, suggesting that inflation alone is insufficient to deter FDI in developing economies when other macroeconomic fundamentals remain favorable.

The exchange rate shows a mixed but significant effect on FDI. In the long term, the exchange rate is negatively related to FDI, indicating that depreciation of the Indonesian rupiah discourages long-term investment. A weaker rupiah may signal macroeconomic instability or reduce expected returns after currency conversion, especially for market-seeking foreign firms. This result corroborates the findings of Najmuddin et al. (2023), who noted that long-term exchange rate volatility is a deterrent to foreign capital inflows. However, in the short term, the exchange rate exhibits a positive and significant influence on FDI. A depreciated rupiah makes local assets and production costs cheaper for foreign investors, enhancing their cost competitiveness. This short-run incentive attracts FDI, particularly in cost-sensitive industries like labor-intensive manufacturing or export processing zones. Apriliana and Soebagiyo (2023) explain that temporary currency depreciation can serve as an entry point for efficiency-seeking investors to benefit from favorable exchange differentials.

The significance of the Error Correction Term (ECT) further validates the model's robustness. The negative and significant ECT coefficient confirms that any short-term disequilibrium between the macroeconomic variables and FDI will gradually adjust toward long-run equilibrium. This result is consistent with the theoretical framework of ECM and suggests that while short-run fluctuations occur, the underlying long-term relationships are stable and predictable.

In summary, the discussion affirms that GDP and exchange rate are crucial determinants of FDI in Indonesia, while inflation does not show significant explanatory power. These insights reinforce the need for a stable macroeconomic environment to attract and sustain foreign investment. Economic growth policies should be prioritized, alongside exchange rate management, to maintain investor confidence. Policymakers should also monitor global macroeconomic trends and their spillover effects on domestic economic indicators to design more responsive and investor-friendly regulations.

V. CONCLUSION

This study empirically investigated the influence of key macroeconomic indicators Gross Domestic Product (GDP), inflation, and exchange rate on Foreign Direct Investment (FDI) inflows in Indonesia over the period 1990 to 2023, using the Error Correction Model (ECM). The results reveal that GDP and exchange rate have statistically significant impacts on FDI, while inflation does not show a significant effect in either the short run or the long run. GDP demonstrated a strong and positive influence on FDI across both time horizons, confirming that sustained economic growth enhances Indonesia's attractiveness to foreign investors. This finding highlights the importance of maintaining robust economic performance as a strategic lever to encourage foreign capital inflows. In contrast, inflation, despite being an important indicator of macroeconomic stability, does not significantly affect FDI decisions within the context of Indonesia's relatively stable inflationary environment during the study period.

The exchange rate exhibited a dual effect: it negatively influenced FDI in the long run, suggesting that long-term currency depreciation may deter investment due to increased uncertainty and reduced expected returns. However, in the short term, a depreciated rupiah

appeared to attract FDI by making investment in domestic assets more cost-effective. This indicates that while temporary exchange rate movements can create opportunities, long-term volatility should be carefully managed to maintain investor confidence. Overall, the findings suggest that Indonesia's ability to attract and sustain foreign direct investment depends significantly on maintaining a stable and growing economy, with careful attention to exchange rate policy. While inflation appears less critical in the Indonesian context, coordinated macroeconomic strategies that promote GDP growth and manage currency risks are essential to foster a conducive investment environment. These insights offer valuable guidance for policymakers aiming to enhance Indonesia's position as a competitive destination for global investment.

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