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A STUDY OF INTEREST RATE THRESHOLDS ON FOREIGN INVESTMENT IN THE CONSTRUCTION SUB-SECTOR IN INDONESIA

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Abstract

The construction subsector plays a strategic role in driving infrastructure development, regional connectivity, and national economic competitiveness. However, the realization of foreign direct investment (FDI) in this subsector remains relatively low compared to other sectors, despite the improving investment climate in Indonesia. One of the main factors influencing foreign investors' decisions is macroeconomic variables such as interest rates, exchange rates, and foreign reserves, which in the context of the construction subsector are suspected to have a complex and not entirely linear relationship. This study aims to analyze the realization of FDI in the construction subsector along with the macroeconomic factors affecting it, to identify the nonlinear relationship pattern between interest rates and FDI, and to estimate the optimal interest rate threshold to attract foreign investment. The research uses quarterly secondary data from 2010–2023, analyzed with the Vector Error Correction Model (VECM), supported by RESET test, Johannsen cointegration, IRF, and FEVD. The results reveal a nonlinear inverted U-shaped relationship between interest rates and FDI in the construction subsector, with an optimal threshold at 4.195%. At moderate levels, interest rates have a significant positive effect, but become negative when exceeding this optimal point. Conversely, exchange rates and foreign reserves do not significantly affect FDI, although their directional relationships are consistent with theoretical expectations. These findings suggest that prudent interest rate management, exchange rate stability, and structural improvements in the

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construction subsector are crucial to enhancing Indonesia's attractiveness to foreign investors.

Keywords: Foreign Investment, Construction Subsector, Interest Rate

INTRODUCTION

The construction subsector plays a strategic role as the main driver of infrastructure development, regional connectivity, public facilities, and national economic competitiveness (Handoko et al., 2023; Setiani & Dasman, 2022), which is reinforced by the government's commitment through national strategic projects, including the relocation of the National Capital (IKN) with a financing scheme of 20% of the State Budget and 80% investment (Permana, 2025). On the other hand, Foreign Direct Investment (FDI) shows a positive trend as one of the pillars of development financing, bringing capital, technology, productivity, and employment thanks to improvements in the investment climate through licensing reforms, incentives, and basic infrastructure development (Anhari, 2023; Wahid & Chaidir, 2025; Widiastuti et al., 2024). This success is evident in the rise in Indonesia's competitiveness and ease of doing business rankings, strengthening FDI as a catalyst for inclusive growth and international relations, although its distribution remains uneven across regions and sectors (Ardila Prihadyatama & Handika Asep Kurniawan, 2022; Febrianto, 2021b; Wibowo & Sasongko, 2022).

From 2019 to 2023, the trend of Domestic Investment (PMDN) and Foreign Investment (PMA) in Indonesia showed a relatively balanced pattern until 2021, influenced by political uncertainty following the 2019 elections and the impact of the COVID-19 pandemic, which made foreign investors cautious (BPS, 2023). Under these conditions, PMDN remained stable due to the commitment of domestic business actors, while FDI took longer to recover. Entering 2022, FDI began to show a significant surge, surpassing PMDN, peaking in the third quarter of 2023. This reflects the government's success in improving the investment climate through economic stability, ease of doing business, and incentives for foreign investors. However, this surge in FDI has not been evenly distributed across all sectors, as its contribution to the construction subsector remains low, indicating unresolved structural issues.

In 2023, the distribution of FDI in the tertiary sector was dominated by the transportation, warehousing, and telecommunications subsector, with a very large value, reflecting the high demand for logistics and technology infrastructure in line with economic digitalization and major national projects (BPS, 2023). The housing, industrial estates, and offices subsector followed in second place, driven

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by urbanization and the need for industrial estates. Conversely, the construction subsector ranked lowest with a very small share, indicating low attractiveness to foreign investors. This situation indicates that despite the intensification of national infrastructure development, the construction subsector still faces high project risks, licensing uncertainty, cost fluctuations, and unclear funding schemes. These challenges demonstrate the need for structural improvements to enable the construction subsector to attract greater FDI and optimally support national development.

Foreign investment in Indonesia is influenced by a combination of macro and microeconomic factors, with macro factors such as interest rates, exchange rates, and foreign exchange reserves being important determinants of investor decisions (Febrianto, 2021). Interest rates reflect investment viability and economic stability (NE Putri & Satrianto, 2023), exchange rates influence the risk of returns in an investor's currency (Sari et al., 2024), while foreign exchange reserves demonstrate economic resilience and increase investor confidence in macro stability (Anhari, 2023; Handoko et al., 2023). High interest rates can be attractive due to higher returns, but they can also signal inflation risks and instability (Annas & Rizal, 2019; Wahid & Chaidir, 2025; Widiastuti et al., 2024). Low interest rates, on the other hand, can encourage investment by lowering the cost of capital, although too low can also indicate a sluggish economy (Handoko et al., 2023; Anhari, 2023).

Exchange rates are considered important because they determine international competitiveness (Apriliani, 2022; Rahma et al., 2024), with appreciation increasing the value of investor assets and depreciation decreasing investment attractiveness (Aisyah et al., 2024). However, a different view emerges from Setiani & Dasman (2022), who state that depreciation can motivate foreign investment by increasing comparative advantage, while excessive appreciation is detrimental by creating a current account deficit, a BOP crisis, and corruption. Depreciation can increase FDI due to lower local production costs. On the other hand, large foreign exchange reserves reflect the ability to pay foreign obligations, strengthen credibility, and attract investors (Aisyah et al., 2024), while low reserves increase the risk of default and discourage foreign investment (Dahlan & Hamidi, 2023).

By considering factors such as interest rates, exchange rates, and foreign exchange reserves, foreign investors can evaluate the risks and prospects of investing in Indonesia. Therefore, the government needs to optimally manage these factors to create a conducive investment climate (OECD, 2018; IMF, 2019).

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This study analyzes the short- and long-term effects of macroeconomic factors on foreign investment, particularly in the construction subsector, which is characterized by capital intensity, high risk, and dependence on monetary stability (COFACE, 2019). By filling a gap in previous research that generally looks at aggregate and linear influences, this study examines the nonlinear relationship between interest rates and realized foreign investment in the construction subsector and estimates the most effective interest rate threshold (Desmintari & Aryani, 2022; Kurniawan et al., 2025). These findings are expected to provide practical input for policymakers in designing appropriate strategies, increasing Indonesia's attractiveness as an investment destination, supporting the growth of the construction subsector, and enriching the academic literature on foreign investment and international economics.

Based on the background of the problem above, the objectives of this study are to analyze the general picture of the realization of foreign investment in the construction subsector, interest rates, exchange rates, and foreign exchange reserves in Indonesia; identify the pattern of nonlinear relationships between interest rates and the realization of foreign investment in the construction subsector; analyze the influence of interest rates, exchange rates, and foreign exchange reserves on the realization of foreign investment in the construction subsector; and estimate the most effective threshold value of interest rates to increase the realization of foreign investment in the construction subsector in Indonesia.

LITERATURE REVIEW

Foreign investment is defined as the flow of capital from one country to another to gain economic benefits (Karlinda et al., 2021). Foreign investment can take the form of direct investment (FDI) or portfolio investment (FPI). FDI refers to investments made by companies or individuals from one country in another country with the aim of building, purchasing, or managing productive assets such as factories, machinery, or production facilities. Meanwhile, FPI refers to investments in the form of purchasing financial assets such as stocks, bonds, or other securities in another country (JK Putri, 2022).

Foreign exchange reserves are foreign assets that can be immediately used to make international payments, such as gold, currency

Foreign exchange reserves, as well as Special Drawing Rights (SDRs) at the International Monetary Fund (IMF). Foreign exchange reserves reflect a country's economic strength in facing external shocks and maintaining the value of its domestic currency (Khokhych et al., 2023). Foreign exchange reserves generally

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consist of liquid assets such as gold, major foreign currencies (such as the US dollar, euro, Japanese yen), and other internationally recognized assets such as the IMF's SDRs. The composition of foreign exchange reserves can vary between countries, depending on their policies and priorities (Vinokurov et al., 2022).

An exchange rate is the price of one currency against another, determining how much one currency can be exchanged for another. There are several types of exchange rates, such as the nominal exchange rate, which indicates the relative price of two currencies; the real exchange rate, which adjusts for differences in price levels between the two countries and reflects relative purchasing power; and the effective exchange rate, which is the weighted average of a currency's exchange rate against a basket of major currencies (Steinberg et al., 2023).

Within the exchange rate system, there are several approaches that governments can use. First, a fixed exchange rate system, where the government maintains the domestic exchange rate at a specific level against a benchmark currency, usually by intervening in the foreign exchange market. Second, a floating exchange rate system, where the exchange rate is determined entirely by supply and demand in the foreign exchange market without government intervention. Third, a managed floating exchange rate system, where the government occasionally intervenes in the foreign exchange market to influence the exchange rate within certain limits (Ali et al., 2023).

There are several types of interest rates, such as the nominal interest rate, which is the interest rate announced by banks or financial institutions without accounting for inflation, and the real interest rate, which is the nominal interest rate adjusted for inflation. Furthermore, there is the benchmark interest rate, set by the central bank as a guide for banks in determining interest rates on loans and deposits, and the lending rate, which is the interest rate charged by banks or financial institutions to borrowers (Nugraha & Lestari, 2023).

RESEARCH METHOD

The research method used in this study is a quantitative method with a descriptive and explanatory design, which aims to describe the characteristics of foreign investment in the construction subsector and analyze the dynamic influence of interest rates, exchange rates, and foreign exchange reserves on foreign investment in the construction subsector in Indonesia in the period from the first quarter of 2010 to the fourth quarter of 2023 (Creswell & Creswell, 2023).

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Method of Collecting Data

The data collection method in this study uses secondary data, namely data obtained from official publications of the Investment Coordinating Board (BKPM) and Bank Indonesia for the period from the first quarter of 2010 to the fourth quarter of 2023. Data on FDI in the construction subsector were obtained from the BKPM investment realization report, containing information on investment value, industrial sector, and country of origin of investors. Meanwhile, data on independent variables such as interest rates, the rupiah exchange rate against the US dollar, and foreign exchange reserves were obtained from official publications of Bank Indonesia. All data were downloaded and processed using Microsoft Excel for subsequent analysis with Eviews. The use of quarterly time series data was chosen because it is more detailed to capture the dynamics of fluctuations in the variables studied over a relatively long period of time.

Population and Sample

The population in this study is all data on foreign investment realization in the construction subsector in Indonesia from the first quarter of 2010 to the fourth quarter of 2023, along with supporting macroeconomic data (interest rates, exchange rates, foreign exchange reserves) for the same period. This study sample was taken using a census, meaning all quarterly observation data within the study period were used in full without selection because the entire population was relevant to the analysis. This allows the study to obtain comprehensive results regarding the relationship patterns between the analyzed variables.

Definition of Variables and Measurement of Variables

This study uses four main variables, namely:

1. Foreign Investment in the Construction Subsector (PMA), measured based on the realized value of foreign investment in the construction subsector, obtained from the BKPM report, expressed in million USD per quarter.
2. Interest Rate (SBI), measured by the Bank Indonesia benchmark interest rate (BI Rate) per quarter, expressed as a percentage.
3. MarkExchange Rate (KRS), measured by the average value of the rupiah exchange rate against the US dollar per quarter, taken from Bank Indonesia reports.
4. Foreign Exchange Reserves (CAD), measured by Indonesia's total foreign exchange reserves per quarter in millions of USD, based on Bank Indonesia data. Furthermore, the squared interest rate is also obtained by squaring the interest rate value to detect possible nonlinear relationships.

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Main Analysis Tools

The primary analytical tool in this study is the Vector Error Correction Model (VECM), which is used to examine the short- and long-term effects of interest rates, exchange rates, foreign exchange reserves, and foreign investment in the construction subsector. Before estimating the VECM, the following steps were performed:

1. Descriptive Analysis, to describe the general conditions of PMA in the construction sub-sector and macroeconomic variables in the form of tables, graphs, or charts.
2. TestStationarity, using Augmented Dickey-Fuller (ADF) to ensure that variables are stationary at the level or first difference.
3. Determination of Optimal Lag Length, with minimum Akaike Information Criterion (AIC) criterion.
4. TestVAR Model Stability, to ensure the validity of the Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD).
5. TestCointegration, using the Johansen Cointegration Test method to detect the presence of cointegration between variables and determine the number of cointegration equations.

The analysis is also complemented by:

1. IRF, to see the response of foreign investment in the construction sub-sector to shocks to independent variables, especially interest rates.
2. FEVD, to determine the relative contribution of shocks to each independent variable on the variability of FDI in the construction sub-sector.
3. The significance of the model was carried out using the F-test, t-test, and R^2 value to test the significance of the parameters simultaneously, partially, and the predictive ability of the model.

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RESULTS AND DISCUSSION

Analysis of the Nonlinear Relationship Pattern between Interest Rates and Realization of Foreign Investment in the Construction Subsector in Indonesia

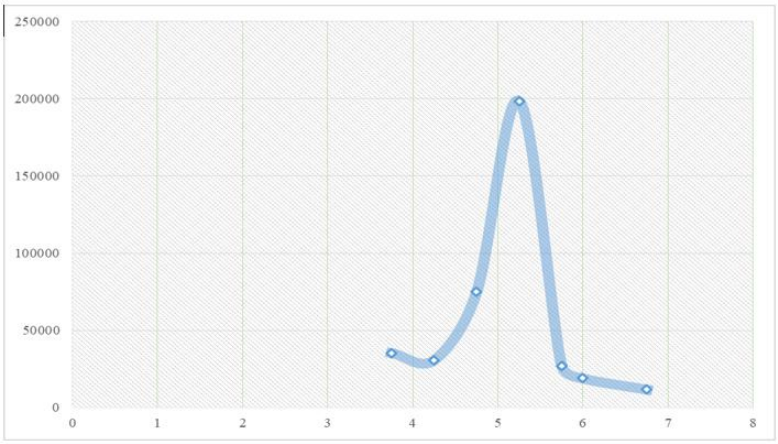

Figure 1.
Plot of Interest Rates with Foreign Investment in the Construction Subsector
Source: Processed Data (2025)

Research results indicate a nonlinear, inverted-U curve between interest rates and realized foreign investment in the construction subsector in Indonesia. An increase in interest rates to the 5–5.25 percent range drives foreign investment to a peak, but then declines sharply after passing that point (Mirović & Petrović, 2023; Steinberg et al., 2023; Suripto et al., 2023). At moderate levels, interest rates provide attractive returns for investors with controlled risks, supporting development prospects and economic stability (Jena & Sethi, 2021). However, when they exceed the optimal threshold, project costs increase, activity slows, and investment attractiveness decreases because the cost of capital exceeds expected returns (Khokhych et al., 2023; Vinokurov et al., 2022). This pattern emphasizes the importance of maintaining optimal interest rates to maintain foreign investment interest, particularly in the construction subsector, which is highly sensitive to fluctuations in borrowing costs and macroeconomic conditions.

Table 1.
RESET Test Results

F table value	Calculated F value	Decision	Conclusion
(1)	(2)	(3)	(4)
4,023	5,359	Reject H0	There is a nonlinear relationship

Source: Processed Data (2025)

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The results of the Ramsey RESET test in Table 1 show that the calculated F-value of 5.359 exceeds the F-table of 4.023 at the 5 percent significance level, so that the null hypothesis stating a linear relationship is rejected, and it is proven that the relationship between interest rates and foreign investment in the construction subsector is nonlinear (Jayasinghe & Palliyaguru, 2023; Mughal, 2023). This finding is consistent with the inverted U-pattern in Figure 4.5, where investors respond not only to interest rates but also to the risks of inflation, exchange rates, and deteriorating liquidity at certain levels. These results imply that interest rates that are too high reduce the attractiveness of projects because they burden financing, while interest rates that are too low are also not attractive enough to compensate for the risks, so Bank Indonesia needs to pay attention to the interest rate threshold point when designing monetary policy (Kasim et al., 2023; Liu et al., 2023). These findings support the view that policies that take nonlinear effects into account are more effective in maintaining macroeconomic stability while attracting foreign investment (Gao et al., 2022).

Analysis of the Influence of Interest Rates, Exchange Rates, and Foreign Exchange Reserves on the Realization of Foreign Investment in the Construction Subsector in Indonesia

Stationarity Testing

Table 2.
Stationarity Testing with the Augmented Dickey-Fuller Level Test Tool

Variables	Level		
	t-stat	Prob.	Note:
(1)	(2)	(3)	(4)
Foreign Investment (PMAK)	-2.650647	0.0894	Non-Stationary
Interest Rate (SBI)	-1.979816	0.2947	Non-Stationary
Square Interest Rate (SBI2)	-1.916982	0.3223	Non-Stationary
Foreign Exchange Reserves (CAD)	-2.580295	0.1031	Non-Stationary
Exchange Rate (KRS)	-1.164938	0.6831	Non-Stationary

Source: Processed Data (2025)

Stationarity testing with Augmented Dickey-Fuller (ADF) at the level, as shown in Table 2, shows that all variables of foreign investment in the construction subsector (PMAK), interest rates (SBI), squared interest rates (SBI2),

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foreign exchange reserves (CAD), and exchange rates (KRS) have a probability above 0.05 and the t-statistic is greater than the critical value of the ADF, so that the null hypothesis cannot be rejected and all variables are declared non-stationary at the level.(Nouhaila & Younès, 2023; Shi et al., 2022)This is normal in macroeconomic time series data affected by inflation, crises, and policy interventions, and indicates that the mean, variance, and covariance between periods are not constant. This nonstationarity means that long-run relationships between variables can only be analyzed after differentiation or cointegration tests, as suggested by(Li et al., 2021)If the variables become stationary after the first difference, the analysis using the cointegration approach and VECM remains valid. In this study, the ADF results reflect the impact of external factors and global shocks on the variables, so the next step is to test the first difference to avoid pseudo-regression and ensure the reliability of the model.(Hardi et al., 2024).

Table 3.
Stationarity Testing with the Augmented Dickey-Fuller 1st Difference Test

Variables	First Difference		
	t-stat	Prob.	Note:
(1)	(2)	(3)	(4)
Foreign Investment	-15.94997	0.0000	Stationary
Interest rate	-4.669726	0.0004	Stationary
Square Interest Rate	-4.877519	0.0002	Stationary
Foreign exchange reserves	-5.863939	0.0000	Stationary
Exchange rate	-10.42402	0.0000	Stationary

Source: Processed Data (2025)

The results of the Augmented Dickey-Fuller test on the first difference show that all variables of foreign investment in the construction sub-sector, interest rates, squared interest rates, foreign exchange reserves, and exchange rates have probabilities far below 0.05 and t-statistics are smaller than the critical value of the ADF, so that the null hypothesis is rejected at the 5% level and all variables become stationary after the first differentiation.(Hao & Wang, 2025; Molosiwa & Kenalemang, 2025). This indicates that the fluctuations of the variables are constant around their averages and all variables are first-order integrated (I(1)), which is reasonable considering the influence of major shocks

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such as the commodity crisis, the pandemic, and changes in monetary policy throughout 2010–2023. This condition is important to ensure that the model does not experience pseudo-regression, and allows for cointegration tests to examine the long-term relationship between variables.(Effiong, 2022)This finding also confirms that Indonesia's macroeconomic dynamics are highly sensitive to global and domestic factors that shape long-term trends, making further analysis using the VECM methodological approach appropriate.

Optimal Lag Selection

Table 4.
Optimal Lag Selection Results

Lag Length	Criteria				
	LR	FPE	AIC	SC	HQ
(1)	(2)	(3)	(4)	(5)	(6)
0	NA	1.58e+25	72.21023	72.39963	72.28260
1	339.9771	2.21e+22	65.63558	66.77195*	66.06982*
2	53.59784*	1.59e+22*	65.27602*	67.35936	66.07213
3	32.18145	1.82e+22	65.33695	68.36726	66.49492
4	23.89834	2.55e+22	65.52073	69.49801	67.04057
5	27.15154	2.99e+22	65.41506	70.33932	67.29676

Source: Processed Data (2025)

Table 4 shows the results of selecting the optimum lag by considering several criteria, where LR, FPE, and AIC recommend the 2nd lag, while SC and HQ choose the 1st lag; thus the 2nd lag was decided as a compromise because it is supported by the majority of criteria and is able to capture short-term dynamics without overfitting.(Puci et al., 2023). In the Indonesian context, the use of a lag greater than one is necessary to describe the delay in economic response due to policy transmission and market adaptation, as explained by(Saka & Moyanga, 2023)that VAR models with more than one lag are more stable and informative for quarterly data. Choosing the right lag is important because variables such as foreign investment in the construction subsector, interest rates, and foreign exchange reserves have long cycles influenced by external and domestic factors, thus making the resulting VECM and IRF estimates more valid and relevant for formulating investment policies and macroeconomic stability.

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VAR Stability Testing

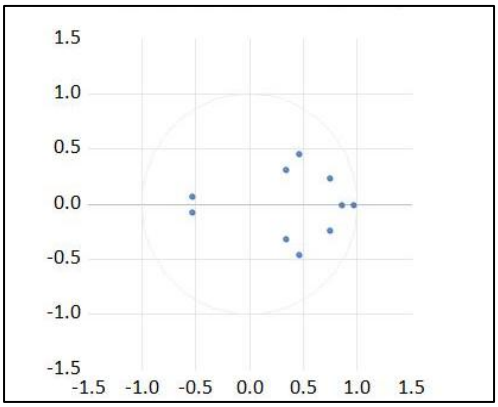

Figure 2.
Results of Inverse Roots of AR Characteristics Polynomial
Source: Processed Data (2025)

Figure 2 shows the results of the stability test of the VAR model with the inverse roots of the AR characteristic polynomial, where all points are inside the unit circle, indicating that all roots of the characteristic polynomial are also inside the circle so that the model meets the stability assumption and the estimation results are reliable.(Karlinda et al., 2021b)This stability is important to ensure that shocks to macroeconomic variables, such as interest rates or exchange rates, do not produce biased or unrealistic predictions, and that the IRF and FEVD analyses remain valid. The stability of the model also indicates that the relationship between foreign investment in the construction subsector, interest rates, foreign exchange reserves, and the exchange rate tends to be in a long-term equilibrium, in line with the Indonesian economy's ability to maintain macroeconomic stability despite facing global challenges.(Aisyah et al., 2024)Therefore, the results of this stability test provide a strong basis for interpreting the realistic response of economic variables to shocks and formulating appropriate policies.

Cointegration Testing

Table 5.
Johannsen Cointegration Test Results

Null Hypothesis	Eigenvalue	Trace-Stat.	Critical Value 5 percent	Prob.
(1)	(2)	(3)	(4)	(5)
r=0	0.428213	71.48681	69.81889	0.0366*
r=1	0.309748	41.86039	47.85613	0.1627
r=2	0.213373	22.2134	29.79707	0.2868

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r=3	0.106701	9.493331	15.49471	0.3217
r=4	0.064136	3.513137	3.841465	0.0609

Source: Processed Data (2025)

Table 5 shows the results of the Johansen cointegration test which examines the long-term relationship between foreign investment in the construction subsector, interest rates, squared interest rates, foreign exchange reserves, and exchange rates, where in the first null hypothesis (r=0), the trace statistic value is 71.48681 > the critical value of 69.81889 with a probability of 0.0366 < 0.05, so the null hypothesis is rejected and it is proven that there is one significant cointegration vector.(Sari et al., 2024)At the next rank (r=1 to r=4), the trace statistic value is smaller than the critical value and the probability is >0.05, indicating no evidence of more than one cointegration relationship. These results indicate that the five variables have a single long-run equilibrium, which is relevant to Indonesia's economic conditions, which have maintained macroeconomic stability amidst global pressures from the reform era to post-pandemic recovery.(Firdaus et al., 2022)This finding confirms that interest rate policy and foreign exchange management need to maintain a long-term balance with foreign investment in the construction subsector to maintain investor attractiveness and support domestic economic competitiveness.

VECM Equation Analysis

The Vector Error Correction Mechanism (VECM) estimation results indicate a significant long-term equation between foreign investment in the construction subsector (PMAK) and interest rates, squared interest rates, foreign exchange reserves, and exchange rates, where the interest rate has a significant positive coefficient up to a certain point before turning negative as indicated by the significantly negative squared interest rate, supporting the findings (Febrianto, 2021) regarding the nonlinear relationship due to the sensitivity of the cost of capital. Foreign exchange reserves and the exchange rate have negative but insignificant coefficients, indicating their influence is more dominant in the short term, in line with Indonesia's conditions where the moderate BI rate attracts investment up to a certain threshold (Arief, 2025). The significant Error Correction Term (ECT) value of -0.804236 indicates that approximately 80.4% of short-term imbalances are corrected to long-term equilibrium within one quarter, reflecting the construction sector's rapid response to macroeconomic imbalances (Nasir et al., 2023). This finding emphasizes the importance of a prudent interest rate policy by paying attention to the threshold to maintain foreign investment in the

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construction subsector, in line with the nonlinear patterns identified in the previous RESET and cointegration tests.

Short Term Analysis

Table 6.
Short-Run Equation Estimation

Regressor	Coefficient	Standard Error	t-statistic
(1)	(2)	(3)	(4)
ECT	-0.804236	0.26284	-3.05974*
D(PMAK(-1))	0.021130	0.24232	0.0872
D(PMAK(-2))	0.364774	0.16554	2.20351**
D(SBI(-1))	259290.6	262004	0.98964
D(SBI(-2))	-24460.61	262654	-0.09313
D(SBI2(-1))	-26647.01	23047.6	-1.15617
D(SBI2(-2))	1509.251	23092.1	0.06536
D(CAD(-1))	-5.652427	3.84181	-1.47129
D(CAD(-2))	6.653546	3.9762	1.67334
D(KRS(-1))	-23.69862	38.7288	-0.61191
D(KRS(-2))	43.30661	39,6084	1.09337
R-Squared	0.602083		
F-Statistic	5.639683		

Source: Processed Data (2025)

The short-term estimation results in Table 6 show that the correction towards long-term equilibrium is reflected in the Error Correction Term (ECT) of -0.804236 which is significant at the 95% level, meaning that around 80% of the deviation is corrected in one quarter, supporting the findings.(Prihadyatama & Kurniawan, 2022)on the speed with which the construction sector responds to monetary pressures. The PMAK variable at lag-2 is also significantly positive at the 90% level, indicating an inertial effect, while interest rates, squared interest rates, foreign exchange reserves, and exchange rates at lags-1 and lag-2 are insignificant but still reflect adaptive dynamics due to market sentiment and monetary policy in the post-pandemic situation. With an R-squared of 0.6020 and a significant F-statistic at 5%, this model explains approximately 60% of the variation in changes in foreign investment in the construction subsector, in line with(Febrianto & Hidayati, 2021)which found a significant collective influence in the Chinese property sector. In Indonesia, the 2022–2023 BI rate hike to stabilize the rupiah and inflation (BI, 2023) has not completely suppressed investment, as indicated by the positive lag effect of PMAK. Therefore, prudent monetary policy

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is needed to maintain investment attractiveness without creating excessive volatility in the short term.

Long Term Analysis

The results of the cointegration test using Johannsen Cointegration indicate that the VECM system in this study has a single cointegration equation. In other words, a single long-run equation exists among PMAK, SBI, SBI2, CAD, and KRS. The following is the long-run equation in this study:

$$\widehat{PMAK_{t-1}} = 247069.1^{*}SBI_{t-1} - 29447.09^{*}SBI2_{t-1} - 1.290445CAD_{t-1} - 6.649191KRS_{t-1} - 268938.2$$

information :

*significant at the 95 percent confidence level

Long-term estimation results show that interest rates have a significant positive effect on foreign investment in the construction subsector at the 95% confidence level, supporting the findings (Wibowo & Sasongko, 2022) that in Sub-Saharan Africa, interest rate increases reflect economic stability and attract foreign capital. This is in line with (Desmintari & Aryani, 2022) who stated that competitive interest rates increase the attractiveness of investors seeking high returns. In Indonesia, the 2022–2023 BI rate increase did not discourage investment because the prospects for the development of the new capital city (IKN) and infrastructure projects remained promising (Ministry of Public Works and Housing, 2023). However, the significant negative squared interest rate coefficient indicates a threshold where excessively high interest rates suppress investment, in line with (Widiastuti et al., 2024) in China and (Kurniawan et al., 2025) in South Asia, which found an inverted U-shaped pattern between interest rates and FDI. Meanwhile, the exchange rate is not significant for foreign investment in the construction subsector, consistent with (Widiastuti et al., 2024) in CIS countries, which shows that investors pay more attention to macroeconomic stability, project sustainability, and regulatory certainty than exchange rate fluctuations, as also noted by (Wahid & Chaidir, 2025).

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Impulse Response Function

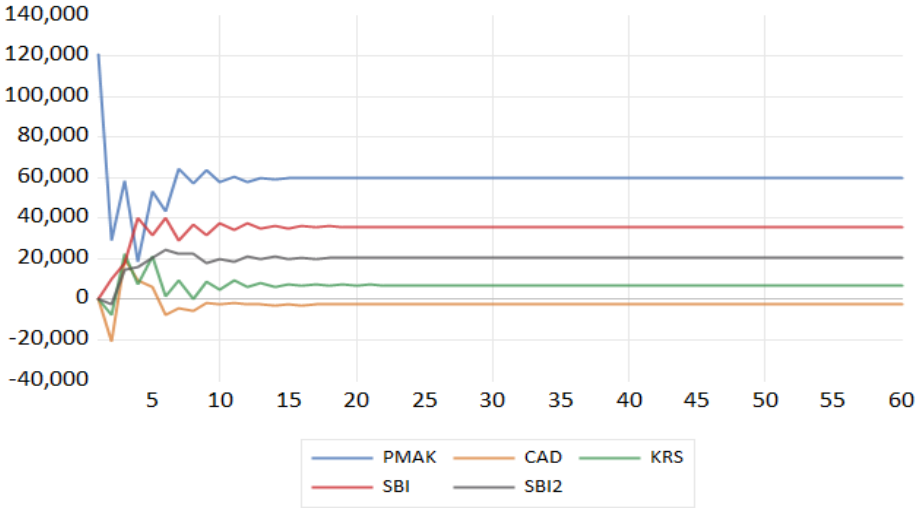

Figure 3.
Response of Foreign Investment in the Construction Subsector to Shocks: Foreign Investment in the Construction Subsector, Interest Rates, Foreign Exchange Reserves, Squared Interest Rates, and Exchange Rates
Source: Processed Data (2025)

The IRF analysis results in Figure 3 show that foreign investment in the construction subsector responded positively to its own shocks, with the largest effect occurring in the first quarter and gradually reaching long-term equilibrium in the 38th quarter. The response to interest rate shocks was also positive from the second to the 22nd quarter, reflecting that moderate interest rates boost investor confidence, in line with findings (Rahma et al., 2024). Conversely, foreign exchange reserve shocks responded mostly negatively after the beginning of the period, supporting the finding (Jatnika, 2020) that macroeconomic instability can hinder FDI. The squared interest rate generally elicited a positive response after the beginning of the period, indicating a threshold effect, while exchange rate shocks showed a negative pattern initially and then turned positive until reaching equilibrium in the 24th quarter. This phenomenon is in line with the explanation (Handoko et al., 2023) that the IRF in VECM moves towards a non-zero constant value, reflecting the direction of the long-term relationship despite the non-stationary data.

Furthermore, the IRF results indicate that FDI in the construction subsector in Indonesia is inertial, maintaining long-term growth despite short-term macroeconomic turmoil (Setiani & Dasman, 2022; Winarto et al., 2021). Positive responses to internal shocks are also influenced by positive perceptions of national strategic projects such as the development of the new capital city,

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supported by state budget and PPP financing schemes. However, rising interest rates and excessive exchange rate pressures can have negative effects, especially in global situations such as the COVID-19 pandemic, the Russia-Ukraine war, and tight US monetary policy, which encourage investor caution (Roziah et al., 2022). These findings confirm that the sustainability of strategic projects and consistent policy support can maintain the attractiveness of foreign investment in the construction subsector, even amidst global and domestic economic pressures.

Forecast Error Variance Decomposition

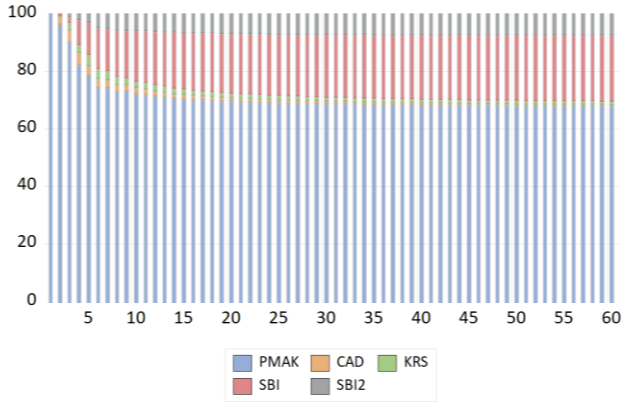

Figure 4.
FEVD from Threshold Interest Rate Modeling on Foreign Investment in the Construction Subsector in Indonesia
Source: Processed Data (2025)

Based on Figure 4, the variability of foreign investment in the construction subsector over 60 quarters was dominated by its own shocks, which in the first quarter were entirely internal and gradually decreased but remained the largest at 67.91% in the 60th quarter, in line with (Blanchard & Leigh, 2013) that FDI in the construction sector depends on project fundamentals and long-term growth expectations. Meanwhile, the contribution of interest rates began to be significant since the second quarter and increased to 22.91% at the end of the period, indicating moderate sensitivity to monetary policy, supporting the findings (Annas & Rizal, 2019) regarding the importance of monetary credibility as a signal of stability.

The quadratic interest rate shock also increased, albeit to a lesser extent, reaching 7.54% in the 60th quarter, while foreign exchange reserves and the exchange rate contributed only a small amount, 0.45% and 1.20%, respectively, indicating that the influence of external risks remains present but is not dominant (Dahlan & Hamidi, 2023; Dziuba et al., 2022). This pattern is consistent with previous IRF results and reflects that investment in the construction subsector in

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Indonesia remains strong thanks to long-term project commitments such as the new capital city (IKN) and national infrastructure, although external factors remain a significant consideration (MD Kurniawan, 2025).

Threshold Estimation Through Long-Run Equation Derivation

The long-run equation shows that a 1 percent increase in interest rates in the long run can increase foreign investment in the construction subsector by 247,069.1 thousand USD, but if the squared interest rate increases by 1 percent, foreign investment actually decreases by 29,447.09 thousand USD, which indicates a nonlinear relationship in the form of an inverted-U curve. This means that interest rates initially have a positive impact on investment until reaching a certain point, after which the impact becomes negative. The plot in Figure 4.5 shows the existence of maximum and minimum points, which indicate the existence of an interest rate threshold on foreign investment in the construction subsector. These extreme points are calculated by setting the first derivative of the long-run equation with respect to the interest rate equal to zero, thus determining the maximum or minimum points on the inverted-U curve.

$$\text{PMAK} = 247.069{,}1\ \text{SBI} - 29.447{,}09\ \text{SBI}^2$$

$$\frac{\text{d(PMAK)}}{\text{d(SBI)}} = 247.069{,}1 - 2(29.447{,}09)\ \text{SBI}$$

$$0 = 247.069{,}1 - 58.894{,}18\ \text{SBI}$$

$$\text{SBI} = \frac{247.069{,}1}{58.894{,}18} = 4{,}195$$

The first derivative calculation of the interest rate yields a value of 4.195, indicating that the interest rate threshold for foreign investment in the construction subsector in Indonesia is at 4.195. Furthermore, to determine the direction of the curve's concavity, this study uses the second derivative of the interest rate. If the second derivative is negative (less than zero), the curve is concave downward, while if it is positive (greater than zero), the curve is concave upward. The following is the result of the second derivative calculation of the interest rate.

$$\frac{\text{d}^2(\text{PMAK})}{(\text{d(SBI)})^2} = -58.894{,}18$$

The second derivative of the interest rate yields a value of -58,894.18, indicating that the threshold curve between interest rates and foreign investment in the construction subsector is concave downward. This result confirms the existence of a nonlinear inverted-U relationship with a threshold point at 4.195 percent, where an increase in interest rates initially increases FDI due to macro

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stability signals and attractive returns, but if it passes the critical point, it has a negative impact due to high financing costs.(N. Murti & Putra, 2025; Rauf, 2024)This pattern is relevant in the Indonesian context, where Bank Indonesia raised interest rates during the Jokowi era in response to external pressures, despite the risks to FDI in the construction subsector, and during the pandemic, when interest rates were aggressively cut to attract investment.(JK Putri, 2022). Post-2024 political stability is also an important factor, as noted by (Aberu, 2023), which emphasizes the continuity of infrastructure policy for investor decisions. The finding that the construction subsector is highly sensitive to interest rates with an optimal threshold supports previous findings on the inverted-U effect.(Gao et al., 2022; Shi et al., 2022) and made it clear that BI needs to maintain interest rates around the optimal point while improving the business climate with fiscal incentives, project guarantees, and comprehensive policies so that the construction subsector remains attractive to FDI and supports national development (Wahyuningsih, 2021).

CONCLUSION

This study concludes that the relationship between interest rates and foreign investment in the construction subsector in Indonesia is nonlinear with an inverted U-shaped pattern, where moderate interest rates up to a threshold of 4.195% have a significant positive impact on foreign investment realization, but the effect becomes negative if it exceeds that point. Meanwhile, the exchange rate and foreign exchange reserves do not have a significant effect on foreign investment despite showing a direction of relationship in accordance with the theory. These findings emphasize the importance of maintaining interest rates at an optimal level, supported by macroeconomic stability and structural improvements in the construction subsector, to increase Indonesia's attractiveness as a foreign investment destination.

Based on the research findings, it is recommended that Bank Indonesia and the government carefully manage interest rate policy, considering an optimal threshold of 4.195% to maintain a balance between attractive returns and the cost of capital for foreign investors. Furthermore, structural reforms are needed in the construction subsector to reduce project risks, improve regulatory certainty, and increase bureaucratic efficiency, so that this subsector can be more competitive and able to sustainably absorb foreign investment. The government also needs to complement monetary policy with fiscal incentives, project guarantees, and more

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aggressive investment promotion to support the growth of the construction subsector and national development.

REFERENCES

Aberu, F. (2023). Governance, Investors Motivations and Foreign Direct Investment Inflow in Selected African Countries: Does John Dunning's Eclectic Paradigm Matters? *Journal of Legal Studies (JLS)*, *32*(46), 55–66. https://doi.org/10.2478/jles-2023-0011.

Aisyah, D. N., Pratomo, D., Supriyaningsih, O., & Setyanto, A. R. (2024). Pengaruh Cadangan Devisa, Neraca Pembayaran, dan Jumlah Uang Beredar terhadap Tren Nilai Tukar Rupiah. *Journal of Economics Research and Policy Studies*, *4*(2), 212–224. https://doi.org/10.53088/jerps.v4i2.1132.

Ali, N., Phoungthong, K., Khan, A., Abbas, S., Dilanchiev, A., Tariq, S., & Sadiq, M. N. (2023). Does FDI Foster Technological Innovations? Empirical Evidence from BRICS Economies. *PLoS ONE*, *18*(3 March), 1–20. https://doi.org/10.1371/journal.pone.0282498.

Anhari, A. (2023). Navigating the Financial Landscape: Analyzing Stock Returns in the Face of Inflation, Interest Rates, and Investment Risk. *KINERJA: Jurnal Manajemen Organisasi dan Industri*, *2*(2), 198–208. https://doi.org/10.37481/jmoi.v2i2.115.

Annas, W. F., & Rizal, D. . (2019). Inflasi di Indonesia dalam Perkembangan dan Pengendalian. *Mabsya: Jurnal Manajemen Bisnis Syariah (KOMBIS)*, *1*(1), 99–115.

Aulia, D., & Kurniawan, M. D. (2025). Analisis Pengaruh Shock Pengeluaran Pemerintah terhadap Neraca Transaksi Berjalan di Indonesia. *Journal of Artificial Intelligence and Digital Business (RIGGS)*, *4*(2), 3540–3552.

Bui, Q. T., & Lo, F. Y. (2022). Technology Multinational Enterprises from Emerging Markets: Competitive Interplay of International Entry Timing Decisions. *Sustainable Technology and Entrepreneurship*, *1*, 100019. https://doi.org/10.1016/j.stae.2022.100019.

Dahlan, Y., & Hamidi, M. (2023). Perbandingan Akurasi Prediksi Indeks Harga Saham Gabungan (IHSG). *BIREV: Business and Investment Review*, *1*(2), 60–78. https://doi.org/10.61292/birev.v1i2.7.

Desmintari, & Aryani, L. (2022). Pengaruh Tata Kelola Pemerintahan, Indeks Pembangunan Manusia dan Total Productivity Terhadap Investasi Asing di Indonesia. *Jurnal Aplikasi Bisnis dan Manajemen*, *8*(2), 601–608. https://doi.org/10.17358/jabm.8.2.601.

Vol. 5 No. 3, 2025, 2821–2845 e-ISSN 2798-0170

Dziuba, P., Glukhova, D., & Shtogrin, K. (2022). Risk, Return and International Portfolio Diversification: K-Means Clustering Data. *Baltic Journal of Economic Studies*, *8*(3), 53–64. https://doi.org/10.30525/2256-0742/2022-8-3-53-64.

Efendi, A., & Aimon, H. (2024). Analisis Pengaruh Variabel Makroekonomi terhadap Pertumbuhan Ekonomi di Indonesia. *Media Riset Ekonomi Pembangunan (MedREP)*, *1*(3), 391–400. https://doi.org/10.32938/jep.v4i4.3113.

Effiong, U. E. (2022). Industrial Policies and Industrial Sector Performance in Nigeria. *Asian Journal of Economics, Finance and Management*, *4*(1), 268–289.

Febrianto, G. N. (2021). Deteksi Financial Distress bagi Perusahaan Bank Umum yang Terdaftar di BEI (Bursa Efek Indonesia) Saat Pandemi Covid 19. *JEM17: Jurnal Ekonomi Manajemen*, *6*(1), 45–64. https://doi.org/10.30996/jem17.v6i1.5275.

Febrianto, G. N., & Hidayati, C. (2021). Urgensi Nilai Perusahaan Bank Umum Devisa Go Public yang Terdaftar di BEI pada Masa Pandemi Covid 19. *Jurnal Ilmiah Edunomika*, *5*(02), 1343–1352. https://doi.org/10.29040/jie.v5i2.3275.

Firdaus, M., Irawan, T., Widyastutik, & Salam, F. A. (2022). Komparasi Daya Saing Minyak Sawit Indonesia dengan Malaysia di Pasar Pakistan dan Kawasan Sekitar dan Determinan Ekspornya. *Buletin Ilmiah Litbang Perdagangan*, *16*(2), 119–144. https://doi.org/10.55981/bilp.2022.6.

Gao, L., Pei, T., Zhang, J., & Tian, Y. (2022). The "Pollution Halo" Effect of FDI: Evidence from the Chinese Sichuan–Chongqing Urban Agglomeration. *International Journal of Environmental Research and Public Health*, *19*, 1–17. https://doi.org/10.3390/ijerph191911903.

Ghicajanu, M. (2021). Competitive Analysis of the Business with the Michael Porter Model. *Annals of the University of Petroşani, Economics*, *21*(1), 169–178.

Han, N. (2022). Analysis of Music Life Cycle Based on Product Life Cycle Theory. *Proceedings of the 2021 International Conference on Public Art and Human Development (ICPAHD 2021)*, *638*, 170–173. https://doi.org/10.2991/assehr.k.220110.033.

Handoko, K., Mukhzarudfa, & Jumaili, S. (2023). Pengaruh Informasi Return on Asset, Return on Equity, Earning Per Share, Nilai Tukar Rupiah, dan Inflasi Terhadap Harga Saham Bank Umum Milik Negara (BUMN) yang Terdaftar di Bursa Efek Indonesia. *Jambi Accounting Review (JAR)*, *4*(1), 43–60. https://online-journal.unja.ac.id/JAR/.

Hao, J., & Wang, W. (2025). Capital Account Liberalization and Sudden Stops in Global Capital Flows. *International Review of Economics and Finance*, *98*,

Vol. 5 No. 3, 2025, 2821–2845 e-ISSN 2798-0170

103954. https://doi.org/10.1016/j.iref.2025.103954.

Hardi, I., Ali, N., Duwal, N., Devi, N. C., Mardayanti, U., & Idroes, G. M. (2024). Business Confidence in Indonesia: Which Macroeconomic Factors Have Long-Term Impact? *Indatu Journal of Management and Accounting*, *2*(1), 40–54. https://doi.org/10.60084/ijma.v2i1.203.

Jayasinghe, N. M., & Palliyaguru, R. S. (2023). The Impact of the Depletion of Foreign Currency Reserves on the Sri Lankan Construction Industry. *Proceedings The 11th World Construction Symposium*, *1*, 1049–1063. https://doi.org/10.31705/WCS.2023.84.

Jena, N. R., & Sethi, N. (2021). Determinants of Foreign Exchange Reserves in Brazil: An Empirical Investigation. *Journal of Public Affairs*, *21*(2), 1–12. https://doi.org/10.1002/pa.2216.

Karlinda, A. E., Azizi, P., & Sopali, M. F. (2021a). Faktor-Faktor yang Mempengaruhi Penanaman Modal Asing di Indonesia. *Journal of Information System, Applied, Management, Accounting and Research*, *5*(2), 523–531. https://doi.org/10.52362/jisamar.v5i2.

Karlinda, A. E., Azizi, P., & Sopali, M. F. (2021b). Pengaruh Pengalaman Kerja, Prestasi Kerja, Pendidikan dan Pelatihan terhadap Pengembangan Karir pada PT. PLN (persero) Kota Padang Rayon Kuranji. *Journal of Information System, Applied, Management, Accounting and Research.*, *5*(2), 523–531. https://doi.org/10.52362/jisamar.v5i2.

Kasim, O., Ajayi, S., Omirin, O., & Alabi, A. (2023). The Impact of Foreign Exchange Rate on Building Materials and Residential Building Construction Cost in Nigeria (1999-2021). In *Acta Structilia* (Vol. 30, Issue 2). https://doi.org/10.38140/as.v30i2.7523.

Khokhych, D., Lyubich, O., Bortnikov, G., Klymenko, K., & Kulbachnyi, S. (2023). The Official Foreign Exchange Reserves of Central Banks: Adequacy and Accumulation Criteria. *Financial and Credit Activity: Problems of Theory and Practice*, *5*(52), 40–51. https://doi.org/10.55643/fcaptp.5.52.2023.4164.

Kurniawan, M. R., Ghafur, A., & Kartikawati, Y. (2025). Pengaruh Inflasi, Suku Bunga, dan Kurs Terhadap Return on Asset pada Bank Umum Syariah. *Jurnal Ekonomi Syariah Pelita Bangsa*, *10*(01), 200–215. https://doi.org/10.37366/jespb.v10i01.2428.

Li, Y., Sun, Y., & Chen, M. (2021). An Evaluation of the Impact of Monetary Easing Policies in Times of a Pandemic. *Frontiers in Public Health*, *8*, 1–13. https://doi.org/10.3389/fpubh.2020.627001.

Liu, J., He, P., & Meng, Q. (2023). Meeting Investors' Demands in PPP Project to Improve Enthusiasm for Participating in Green and Low-Carbon. *Economic*

Vol. 5 No. 3, 2025, 2821–2845 e-ISSN 2798-0170

Research-Ekonomska Istraživanja, *36*(1), 1–20. https://doi.org/10.1080/1331677X.2023.2167224.

Mirović, I., & Petrović, V. (2023). The Future of the Dollar as a World Reserve Currency in New International Circumstances. *Ekonomski Signali*, *18*(2), 069–092. https://doi.org/10.5937/ekonsig2302069m.

Molosiwa, T., & Kenalemang, K. (2025). The Resilience of Botswana’s Banking Sector During the Political Transition Following the End of Long-Standing Governance. *Modern Economy*, *16*(4), 523–549. https://doi.org/10.4236/me.2025.164025.

Mughal, N. S. (2023). Reviewing the Impact of the Macroeconomic Components on the Performance of the Construction Industry. *International Journal of Business and Management Sciences*, *04*(04), 105–127. www.ijbms.orghttp://www.ijbms.org.

Murti, N. K. E. A., & Putra, M. A. P. (2025). Peran Negara Dalam Melindungi Investor Asing Terhadap Kegiatan Penanaman Modal Asing. *Jurnal Media Akademik (JMA)*, *3*(5), 1–14. https://jurnal.mediaakademik.com/index.php/jma/article/view/1880%0Ahttps://jurnal.mediaakademik.com/index.php/jma/article/download/1880/1566.

Murti, N., & Putra, M. A. P. (2025). Peran Negara Dalam Melindungi Investor Asing terhadap Kegiatan Penanaman Modal Asing. *Jurnal Media Akademik (JMA)*, *3*(5).

Nasir, M. A., Wardhono, A., Amalia, N., & Indrawati, Y. (2023). Menguji Teka-Teki Fama Baru di Pasar Keuangan Negara ASEAN Terpilih. *Jurnal Ekonomi Indonesia*, *12*(2), 155–171. https://doi.org/10.52813/jei.v12i2.463.

Nouhaila, M., & Younès, L. (2023). Flexible Exchange Rate Regimes in Emerging Markets: Current Insights and Avenues for Future Research. *Global Business and Finance Review*, *28*(7), 75–88. https://doi.org/10.17549/gbfr.2023.28.7.75.

Permana, A. H., & Setyowati, E. (2025). Tingkat Inflasi,Investasi dan Ekspor terhadap Pertumbuhan Ekonomi di Negara Jerman 2004-2023. *Edunomika*, *09*(01), 1–10.

Prihadyatama, A., & Kurniawan, H. A. (2022). Studi Literatur Roadmap Pengendalian Inflasi Daerah di Indonesia. *Inisiatif: Jurnal Ekonomi, Akuntansi dan Manajemen*, *1*(4), 238–264. https://doi.org/10.30640/inisiatif.v1i4.790.

Puci, J., Demi, A., & Kadiu, A. (2023). Impact of Macroeconomic Variables on the Construction Sector. *Corporate and Business Strategy Review*, *4*(1), 22–30. https://doi.org/10.22495/cbsrv4i1art2.

Vol. 5 No. 3, 2025, 2821–2845 e-ISSN 2798-0170

Putri, J. K. (2022). Peran Penanaman Modal Asing dalam Membangun Perekonomian di Indonesia. *Journal of Social Research*, *1*(3), 201–212. https://doi.org/10.55324/josr.v1i3.55.

Putri, J. K., Arifin, T. F. N., Syavira, R., Nur, Z. R., Nasution, M., & Qolbiah, A. (2022). Peran Penanaman Modal Asing dalam Membangun Perekonomian di Indonesia. *JOSR: Journal of Social Research*, *1*(3), 201–212. https://doi.org/10.55324/josr.v1i3.55.

Putri, N. E., & Satrianto, A. (2023). Analisis Determinan Investasi di Indonesia. *Oikos: Jurnal Kajian Pendidikan Ekonomi dan Ilmu Ekonomi*, *7*(2), 2549–2284. https://journal.unpas.ac.id/index.php/oikos/article/view/6483/3606.

Rahma, E. A., Kartika, H. N., & Wigati, S. (2024). Implementasi Pemikiran John Hicks terhadap Pertumbuhan Ekonomi di Indonesia. *Jurnal Ekonomi Insentif*, *18*(2), 107–118.

Rauf, D. I. (2024). Dampak Investasi Asing Langsung terhadap Pertumbuhan Ekonomi Indonesia. *JIMBE: Jurnal Ilmu Manajemen, Bisnis dan Ekonomi*, *2*(1), 107–116.

Roziah, T. R., Septiani, R., Amapoli, E. V, & Muhammad, R. (2023). Inflasi di Indonesia: Perkembangan dan Pengendaliannya. *SYNERGY: Jurnal Ilmiah Multidisiplin*, *1*(1), 9–18.

Saka, N., & Moyanga, D. T. (2023). Evaluating the Influence of Foreign Exchange Policy Regime on the Construction Sector in Nigeria. *International Journal of Real Estate Studies (INTREST)*, *17*(1), 1–12. https://doi.org/10.11113/intrest.v17n1.233.

Sari, G., Samosir, S., Syahputra, Z. E., Octaviani, W., Sihombing, T. E. O., Silaban, S. M. J., Kurs, P., Inflasi, D., Impor, T., Pmdn, M., Provinsi, D., Utara, S., Tahun, P., & 1✉, G. S. (2024). Pengaruh Kurs dan Inflasi terhadap Impor Melalui PMDN di Provinsi Sumatera Utara pada Tahun Tahun 2001-2023. *INNOVATIVE: Journal Of Social Science Research*, *4*(6), 7230–7242.

Setiani, R. I., & Dasman, S. (2022). Dampak Neraca Perdagangan, Inflasi dan Tingkat Investasi terhadap Pertumbuhan Ekonomi Indonesia. *Jurnal Perlita Manajemen*, *01*(01), 76–85.

Shi, L., Zhu, C., Tang, D., & Boamah, V. (2022). The Impact of FDI on China's Urban–Rural Income Gap. *Sustainability (Switzerland)*, *14*, 1–17. https://doi.org/10.3390/su142013047.

Steinberg, P. J., Hennig, J. C., Oehmichen, J., & Heigermoser, J. (2023). How the Country Context Shapes Firms' Competitive Repertoire Complexity. *Global Strategy Journal*, *13*, 552–580. https://doi.org/10.1002/gsj.1458.

Suripto, Setiawan, R. R., Istanti, I., & Mustofa, H. (2023). An Analysis of Factors

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Affecting Indonesia's Foreign Exchange Reserve. *OPTIMUM: Jurnal Ekonomi dan Pembangunan*, *12*(2), 223–235. https://doi.org/10.12928/optimum.v12i2.6588.

Vinokurov, E. Y., Grichik, M. V., & Tsukarev, T. V. (2022). New Approaches to International Reserves: The Lack of Credibility in Reserve Currencies. *Russian Journal of Economics*, *8*, 315–332. https://doi.org/10.32609/j.ruje.8.98242.

Wahid, M. R. J., & Chaidir, T. (2025). Pengaruh Suku Bunga Federal Reserve System dan Nilai Tukar terhadap Inflasi di Indonesia. *ECo-Fin*, *7*(1), 533–546. https://doi.org/10.32877/ef.v7i1.2157.

Wahyuningsih, D. (2021). Trade Flow of Manufacturing Sector and Foreign Direct Investment in ASEAN Economic Integration: The Gravity Model of Trade. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, *8*(6), 619–630. https://doi.org/10.22437/ppd.v8i6.10289.

Wibowo, A., & Sasongko, R. (2022). Penerapan Data Mining pada Suku Bunga Investasi Deposito di Indonesia Menggunakan Metode K-Means Clustering untuk Pengelompokan Profitabilitas. *ASCARYA: Islamic Science, Culture, and Social Studies*, *2*(1), 70–80. https://doi.org/10.53754/iscs.v2i1.369.

Widiastuti, N., Fitrady, A., & Widodo, T. (2024). Pengukuran Kesinambungan Fiskal di Indonesia. *JEKP*, *15*(1), 21–38.

Winarto, H., Poernomo, A., & Prabawa, A. (2021). Analisis Dampak Kebijakan Moneter terhadap Pertumbuhan Ekonomi di Indonesia. *J-MAS: Jurnal Manajemen dan Sains*, *6*(1), 34–42. https://doi.org/10.33087/jmas.v6i1.216.

Yasmin. (2023). Analisis Pertumbuhan Ekonomi Melalui Jalur Transmisi Current Account dan Capital Inflow di Indonesia. *Jurnal Ilmiah Ekonomi Bisnis*, *28*(1), 25–41. https://doi.org/10.35760/eb.2023.v28i1.6624.