The Impact of Macroeconomic Factors on Foreign Direct Investment in Indonesia from 2007 To 2022: A Vector Error Correction Model (VECM) Approach

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Article Info	Abstract
	This study will examine the impact of macroeconomic factors on FDI. The gap in this study lies in the significant changes in economic conditions and investment policies in Indonesia since 2007, which previous studies have not fully explained. The possibility of new factors affecting FDI flows requires more sophisticated analyses. In addition, the relevance of internalized investment theory in the current context of economic globalization has not been widely explored in FDI research in Indonesia. This study uses Secondary time series data and quantitative research techniques. Quarterly data from 2007 to 2022 is the data set used. The research employs the Vector Error Correction Model data analysis technique, with a significance level of 5%. The findings indicate that the exchange rate has an insignificantly negative short-term impact on FDI and a significant negative long-term impact. Then, inflation has a short-term positive and insignificant impact on FDI but a significant negative in the long term. Meanwhile, the interest rate has a significant positive effect on FDI in the long term, but in the short term, it has a negative and insignificant effect.

INTRODUCTION

Foreign investment has a crucial role in advancing the economy, not only for developing countries but also for developed countries that, at the beginning of their development, relied on foreign investment, especially Foreign Direct Investment (FDI) (Habibi & R., 2017, p. 87). With interest rates higher than in developed nations, Indonesia is a desirable market and place for foreign investors to invest (Rahmawati & Makaliwe, 2021, p. 180). Foreign capital can contribute positively to Indonesia's economic development. Increasing foreign investment is crucial for funding development (J. K. Putri, Harahap, & Hasibuan, 2022, p. 203). In addition, the impact of FDI is increased state revenue and employment. Indonesia has two types of FDI: portfolio and direct investment (Mainita & Soleh, 2019, p. 121). According to Sukirno, investment is spending funds or capital to acquire productive assets for future profits (Sukirno, 2004, p. 435). While research on macroeconomic influences on foreign direct investment has been widely researched before (Bintoro, 2022, p. 561; Juliannisa, 2018,

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p. 122; N. K. Putri, Komara, & Setyowati, 2021, pp. 22–23; Sanusi, Kuncoro, & Herianingrum, 2019, p. 302; Saragih, Haryadi, & Emilia, 2021, pp. 42–43; Wage, 2020, p. 32), these studies show mixed results.

FDI entering Indonesia from 2017 to 2022 has generally increased. The most significant increase occurred from the end of 2021 until 2022, when the value of investment increased from 7 billion US dollars to 12.2 billion US dollars. This indicates that Indonesia is an attractive market and investment destination for foreign investors (Badan Koordinasi Penanaman Modal, 2023). Keynes' investment theory explains that the factors that affect FDI are interest rates and economic conditions in the destination country, which include currency exchange rates and inflation rates (Perelman, 1989, p. 110). Then, in the Internalization Theory, it is also explained that if the exchange rate is low, foreign investors can earn more local currency with the same amount of foreign currency. In addition, the theory also says that countries with low inflation rates will provide advantages in investment (Buckley, 1989, p. 77). Table 1 below shows that the value of FDI has continued to increase over the past few years.

Based on these concepts, the exchange rate is one element that influences incoming FDI. A country's strong currency can benefit investors (Renaldy, Ikhlas, & Utama, 2018, p. 2). According to Levačić, the exchange rate is the price given to each currency unit with another currency as a means of payment in international trade. The determination of exchange rates is done through the foreign exchange market, where various currencies are traded (Levačić & Rebmann, 1982, p. 379). According to the internalization theory, exchange rates negatively impact the FDI. This means that a rise in the exchange rate will result in a decline in FDI (Yasa & Santra, 2023, p. 40). This theory contradicts Harms findings, which show that FDI in both America and Europe is positively and significantly impacted by currency exchange rates (Harms & Knaze, 2021, p. 29), Sari in Indonesia in 2004-2007 (Sari & Baskara, 2018, p. 4025), Regina Wilantari in ASEAN 3 (Wilantari, Saragih, & Prianto, 2020, p. 82), and Arthur in Ghana from 1996 to 2018 (Arthur & Addai, 2022, p. 15). Meanwhile, Sanjaya discovered that the exchange rate significantly and positively impacts FDI in Bali Province (Sanjaya, Wimba, & Kawiana, 2019, pp. 136–137).

Another factor that also affects incoming FDI is a country's inflation rate. High inflation can make goods or services produced in a country less competitive internationally (Papilaya & Sinay, 2022, p. 140). According to Muhammad Isa Alamsyahbana, inflation is when the prices of goods or commodities increase within a certain period (Alamsyahbana, 2022, p. 64). Inflation in Indonesia, which tends to weaken, is caused by several things, including increasing unemployment due to layoffs and a working system that has changed to Work from Home (Wahyuni, 2022, p. 58). According to internalization theories, a nation's inflation rate negatively impacts foreign direct investment. Increases in inflation will result in a decline in FDI (Buckley, 1989, p. 86). The theory is supported by Tsaura, which states that inflation has a significant effect on FDI in Southern Africa (Tsaurai, 2018, p. 607) and FoEh in the ASEAN Countries from 2007-2018 (FoEh, Suryani, & Silpama, 2020, p. 5). However, this theory contradicts Putri's findings, which indicate that FDI in Indonesia is significantly positively affected by inflation (N. K. Putri et al., 2021, p. 22), and

Anindita for 2010-2019 (Anindita, Marbun, & Supriyadi, 2021, p. 1461). Meanwhile, Sanusi discovered that inflation does not significantly impact FDI (Sanusi et al., 2019, p. 300) and Henry for Nigeria (Henry, Gwani, Simon, Ahmed, & Basiru, 2020, p. 639).

Interest rates are a factor that foreign investors take into account when making investments. An investment is considered unprofitable if the country's interest rate exceeds the rate of return (Sari & Baskara, 2018, p. 4007). Bank Indonesia has been running expansionary monetary policies such as the BI 7-day Reverse Repo Rate from January 2020 until the end of September 2020 to stimulate economic activity and encourage investment (Sugandi, 2022, p. 412). A stable interest rate tends to be more attractive to investors because it makes it easier to calculate returns (Hakim, 2023, p. 1287). According to Keynes' investment theory, FDI is significantly harmed by interest rates. So that FDI declines in response to an increase in interest rates (Sunaryo, 2021, p. 40). The theory is supported by Sashini Rathnayake's findings that interest rates negatively affect FDI in the African region (Rathnayake et al., 2023, p. 6). However, Pratama's research contradicts this theoretical claim, which found that interest rates had no real impact on Indonesia's FDI between 2010 and 2020 (Pratama & Setyowati, 2022, p. 329). Meanwhile, according to Saragih, from 2000 to 2017, interest rates significantly and positively affected FDI in Indonesia (Saragih et al., 2021, p. 43) and Isiaka for Sub-Saharan African Countries (Isiaka, Osifalujo, & Taiwo, 2022, p. 186).

In addition to these three factors, other macroeconomic factors expected to influence FDI inflows in Indonesia are GDP and exports, according to research from Aviantih, which shows that in five ASEAN countries between 2010 and 2021, FDI is positively and significantly impacted by GDP and interest rates. (Aviantih, 2023, p. 104). According to Bintoro, GDP has a significant adverse brief impact on FDI, but its long-term impact is insignificant. Meanwhile, Exports have a substantial and short-term negative effect on FDI in Indonesia and a significant and positive long-term impact (Bintoro, 2022, p. 561). Putriyanti shows that exports have an insignificant and negative long-term impact on FDI in Indonesia between 1986 to 2019. they have a positive and significant short-term impact (Putriyanti, 2022, p. 632). We chose GDP and exports as the study's control variables.

The gap in this study lies in the significant changes in Indonesia's economic conditions and investment policies since 2007, which previous studies have not fully explained. The possibility of new factors influencing FDI flows requires a more up-to-date analysis. In addition, the relevance of internalization investment theory in the current context of economic globalization has not been widely explored in FDI research in Indonesia. This study's strength lies in using VECM to understand the long-run and short-run relationships between macroeconomic variables and FDI, as well as the integration of internalization investment theory that can provide new insights into the factors that influence FDI. This study aims to provide a deeper understanding of the impact of exchange rates, inflation, and interest rates on FDI in Indonesia, hoping to contribute to the literature and provide vital information for policymakers.

RESEARCH METHODS

This research design employs a quantitative approach in its method. According to Creswell, a quantitative approach measures and analyzes data in numbers to test the relationship between particular variables (Creswell, 2014, p. 4). The dependent variable, independent variables, and control variables in this study allow researchers to assess how much the impact of independent variables affects the dependent variable (Nurhadi, Hasibuan, Ascarya, Masrifah, & Latifah, 2021, p. 32): the Investment Coordinating Board, The National Bureau of Statistics, and the Indonesian Bank. Data was provided for this study, which serves as a population representative. The data that can be used in this study is constrained by a sample that includes quarterly data from 2007 to 2022—purposively selecting the sample involved, taking into account variables pertinent to the study's goals (Norfai, 2021, p. 179). Table 1 below shows the description and sources of the variables.

Table 1. Variable descriptions and sources

Variable	Description	Unit	Source
FDI	Foreign Direct Investment	Million USD	BKPM
EXR	Exchange Rate	Rupiah	BI
INF	Inflation	Percent	BI
INR	Interest Rate	Percent	BI
GDP	Gross Domestic Product	Million IDR	BPS
EX	Export	Million USD	BPS

The type of data utilized in this research was secondary data from the time series data category. The information gathered is secondary, which has already been collected and can be examined more thoroughly (Sallis, Gripsrud, Olsson, & Silkoset, 2021, p. 37). This study uses FDI data obtained from the Investment Coordinating Board (BKPM), Exchange Rate, Inflation, and Interest Rate data from Bank Indonesia (BI), as well as GDP and Export data from the Central Bureau of Statistics (BPS) as data sources that represent the population in this study. The sample consists of quarterly data covering the period from 2007 to 2022. The data will be processed once it has been gathered. The data in this study will be arranged, put through a validity test, undergo a descriptive analysis, and be interpreted. Eviews 10 is the program used to process the data. The VECM is the data analysis technique employed in this investigation. The VECM model accounts for the cointegration of the variables in the long-term relationship while also accounting for the short-term fluctuations in the variables' relationship (Mala, 2022, p. 83). Generally speaking, the VECM model has the following form:

$$\Delta Y_{it} = \alpha_o + \lambda_1 EC_{it-1} + \sum_{i=1}^{m} \alpha_1 \Delta X_{i,t-1} + \epsilon_{1,it} \quad \text{...} (1)$$

Δ: Operator for the first difference; EC_{it-1}: Period of error correction lagging one; λ : The error correction term's short-run coefficient ($-1 < \lambda < 0$); ϵ: White noise

RESULT AND DISCUSSION

Stationarity Test

The stationarity test aims to determine the linear combination that produces stationarity or equilibrium relationship between variables (Wardhono, Indrawati, Qoriah, & Nasir, 2019, p. 2). Another objective of the stationarity test is to ensure that the regression estimates performed have valid statistical significance. So that the possibility of false regressions that mislead the analysis can be avoided (Syamputri, Khairunnisa, & Nurfajariyati, 2021, p. 179). Table 2 displays the outcomes of the stationarity test for each variable as follows:

Table 2 Stationarity Test (ADF)

Variable	Probability	
	Level	First Difference
FDI	0.7124	0.0000
EXR	0.8486	0.0000
INF	0.1804	0.0000
INR	0.1881	0.0007
GDP	0.9949	0.0000
EX	0.8762	0.0000

Table 1 depicts the stationarity analysis results at the significance level of 5%; furthermore, if the probability is lower than (0.05), H_0 is declined. The results indicate that the probability values of the six variables are more significant than α (0.05), implying that H_0 cannot be ruled out. These findings suggest that the FDI, EXR, INF, INR, GDP, and EX variables are not stationary at a level. To create stationary data, differencing is applied to the data. The first difference level stationarity test results show that the six variables have a less than α probability value (0.05). As a result, all six variables can be considered stationary at the first difference.

Optimal Lag Test

The goal of determining the optimal lag is to ascertain the ideal lag duration for the subsequent testing phase. Another objective is to prevent autocorrelation issues in the test data (Aljandali & Tatahi, 2018, p. 218). The AIC method is used in this research to determine lag. The following outcomes were obtained from the ideal lag test:

Table 3. Optimal Lag Test Results

Lag	AIC
0	95.11203
1	95.02953*
2	95.51114
3	95.34944
4	95.36459
5	95.07832

Based on the optimal lag test results in Table 3, lag 1 is the most optimal lag. The Akaike Information Criterion (AIC) technique can select the ideal lag. The star (*) symbol on lag 1 indicates this.

VAR Stability Test

The VAR stability test aims to produce results confirming the accuracy of the Variance decomposition and IRF (Syamputri et al., 2021, p. 181). The results of the VAR stability test shown in Table 5 and Figure 1 are as follows:

Table 4. VAR Stability Test Results

Root	Modulus
-0.618222	0.618222
0.355502 - 0.287711i	0.457340
0.355502 + 0.287711i	0.457340
-0.296312 - 0.182634i	0.348075
-0.296312 + 0.182634i	0.348075
-0.058253	0.058253

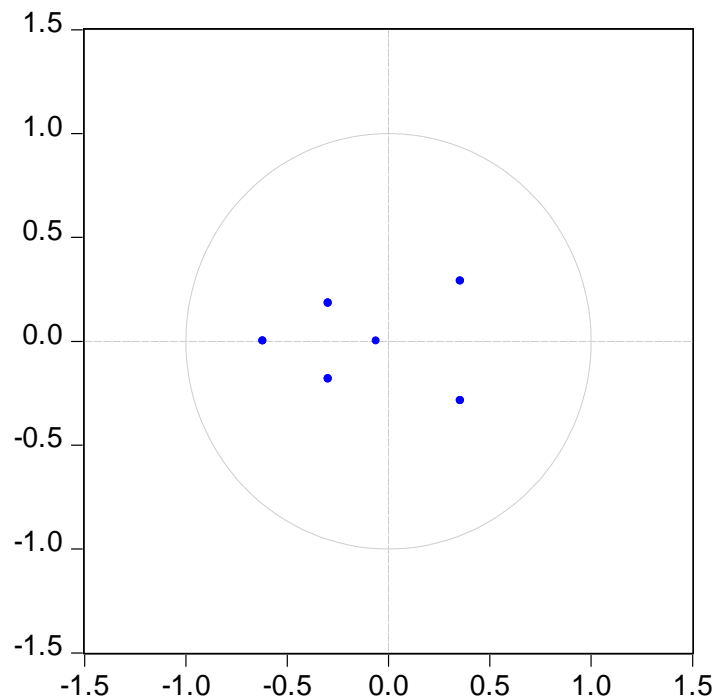**Figure 1 VAR Stability Test Results**

Table 4 displays the results of the VAR stability test; the VAR model is considered stable. This is because all modulus values (absolute values) in the output are less than 1. In addition, Figure 1 shows that all blue dots (inverse roots) are inside the circle (unit circle), indicating that the VAR model can be considered stable.

Cointegration Test

This procedure aims to find if two or more non-stationary variables can be linearly combined to produce stationary variables (Singh & Tripathy, 2020, p. 21). Table 5 displays the findings of the Johansen cointegration test, which are as follows:

Table 5. Johansen Cointegration Test Results

Hypothesized No. of CE(s)	Trace Statistic		Max-Eigen Statistic	
	0.05 Critical Value	Prob.**	0.05 Critical Value	Prob.**
None *	103.8473	0.0000	40.07757	0.0006
At most 1 *	76.97277	0.0000	33.87687	0.0018
At most 2 *	54.07904	0.0000	27.58434	0.0053
At most 3 *	35.19275	0.0000	21.13162	0.0188
At most 4 *	20.26184	0.0001	14.26460	0.0054
At most 5 *	9.164546	0.0012	3.841466	0.0000

The test results at the 5% significance level are shown in Table 5. When deciding whether to reject H_0 in the Johansen cointegration test, one must consider whether the probability value is less than α (0,05). H_0 is rejected because, according to the test results, all probability values obtained are smaller than α (0,05). This suggests that the variables under analysis exhibit cointegration. Additional testing was done with the Vector Error Correction Model in light of these findings.

Empirical Model of VECM

The VECM model accounts for the cointegration of the variables in a long-term relationship while also accounting for short-term fluctuations in the relationship between these variables (Singh & Tripathy, 2020, p. 21). The long-term VECM modeling is presented in Table 6:

Table 6. Long-Run VECM Model

Variables	Coefficient	S.D.	T-value
EXR	-10020.99	3431.64	-2.92017
INF	-2909685	1374362	-2.11712
INR	7829785	2594111	3.01829
GDP	29.42945	10.0658	2.92370
EX	-1633.411	402.020	-4.06301
C	60359887	3.1E+07	1.97339

Long-term Vector Error Correction Model (VECM) modeling results. The decision rule in decision making is H_0 rejected if $|t_{count}| > t_{table}$, showing the result that the coefficient value (-10020.99) and the t_{count} of exchange rate (-2.92017) exceeds the t_{table} (1.99834), so H_0 is rejected. Put another way, a rise in interest rates during the preceding period significantly impacts the long-term increase in FDI. While the coefficient value (-2909685) and the count value of inflation (-2.11712) exceeds the value of the table (1.99834), so H_0 is rejected. Put another way, a rise in inflation during

the preceding time frame significantly impacts a long-term decline in FDI. Meanwhile, the coefficient value (7829785) and the count value of the interest rate (3.01829) are more significant than the table value (1.99834), so H_0 is rejected. Put differently, an uptick in interest rates during the preceding period significantly impacts a long-term rise in FDI. Furthermore, the coefficient value of GDP (29.42945) and the count value (2.92370) is greater than the table value (1.99834), so H_0 is rejected. In other words, the increase in GDP in the previous period significantly impacts the rise in FDI in the long run. For exports, the export coefficient value (-1633.411) and the count value (-4.06301) are more significant than the table value (1.99834), so H_0 is rejected so that the increase in exports in the previous period has a considerable impact on the decline in FDI in the long run.

It is also possible to ascertain the short-term relationship between these variables using the short-term Vector VECM modeling results, as shown in Table 7:

Table 7. Short-Run VECM Model

Variables	Coefficient	S.D.	T-value
FDI	-0.654987	0.10476	-6.25237
EXR	-214.2592	173.444	-1.23532
INF	49715.05	84440.6	0.58876
INR	-172743.6	239347	-0.72173
GDP	1.180094	1.07530	1.09746
EX	-21.43898	31.8589	-0.67293

From the results of short-term VECM modeling, the decision H0 was rejected if $|t_{count}| > t_{table}$. The analysis results show that the coefficient value (-214.2592) and the t_{count} value of the exchange rate (-1.23532) are smaller than the t_{table} value (1.99834), thus failing to reject H_0. Put differently, FDI is negatively and not impacted in the short term by the exchange rate of the previous period. Meanwhile, the coefficient value (49715.05) and the t_{count} value of inflation (0.58876) are smaller than the t_{table} value (1.99834), thus failing to reject H_0. Stated differently, the short-term impact of prior period inflation on FDI is positive but insignificant. Meanwhile, the coefficient value (-172743.6) and the t_{count} value of interest rate (-0.72173) are smaller than the t_{table} value (1.99834), thus failing to reject H_0. Stated differently, the previous period's interest rate has a negative and no short-term impact on FDI. This result is inconsistent with the Internalization Theory, which states that FDI is negatively and significantly affected by the exchange rate and inflation (Buckley, 1989, p. 77). The results are also inconsistent with Keynes' investment theory, which states that interest rates significantly negatively affect FDI inflows (Perelman, 1989, p. 110). Meanwhile, the coefficient value of GDP (1.180094) and the t_{count} value (1.09746) are more significant than the t_{table} (1.99834), so H_0 is rejected. In other words, the increase in GDP in the previous period does not significantly impact the rise in FDI in the long run. While the coefficient value of exports (-21.43898) and the t_{count} value (-0.67293) are more significant than the t_{table} (1.99834), so H_0 is rejected. In other words, an increase in exports in the previous period does not significantly impact the decline in FDI in the long run.

Granger Causality Test

Furthermore, the test aims to determine whether A affects B, B affects A, or the relationship between A and B affects each other (Kurniawan, 2019, p. 89). Table 8 displays the findings of the tests that were performed:

Table 8. Granger Causality Test Results

	FDI	EXR	INF	INR	GDP	EX
FDI	-	1.70958 (0.1960)	1.21902 (0.2740)	4.80649 (0.0322)	11.3253 (0.0013)	12.2000 (0.0009)
EXR	7.60790 (0.0077)	-	1.39122 (0.2429)	0.18289 (0.6704)	8.36038 (0.0053)	3.22657 (0.0775)
INF	0.33893 (0.5626)	5.97697 (0.0174)	-	0.13275 (0.7169)	1.42810 (0.2368)	1.12971 (0.2921)
INR	1.26522 (0.2651)	1.85074 (0.1788)	11.4674 (0.0013)	-	0.12861 (0.7211)	11.0795 (0.0015)
GDP	0.35373 (0.5542)	2.23581 (0.1401)	0.37216 (0.5441)	2.47828 (0.1207)	-	1.54058 (0.2194)
EX	0.18878 (0.6655)	0.02201 (0.8826)	9.33698 (0.0033)	12.6659 (0.0007)	1.06611 (0.3060)	-

Table 8 displays the causality test results. The connection between the exchange rate and FDI is unidirectional; with the probability value less than α (0.05), the decision rule H_0 is rejected. The causality relationship that occurs is that FDI influences the exchange rate. The findings align with Niaz Morshed in Bangladesh (Morshed & Hossain, 2022, p. 16). Then, the findings also show that there is a unidirectional relationship between inflation and FDI. However, the causality relationship is that FDI affects inflation. The findings align with Teh Yi Hong in Malaysia and Iran (Hong & Ali, 2020, p. 213). In addition, there is a unidirectional relationship between interest rates and FDI, namely, interest rates affect FDI. The findings align with the findings of Wibawa (Wibawa & Permada, 2021, p. 83).

Impulse Response Functions (IRF)

Impulse Response Function (IRF) is a measure used to quantify the effect of a shock in time series analysis. The IRF can be used to compare two possibilities: in the presence of a shock and in the absence of a shock. IRF can help understand how a variable reacts to a shock and illustrate the difference between the condition with and without a shock (Meyers, 2010, p. 435). The following are the results of IRF analysis for ten periods:

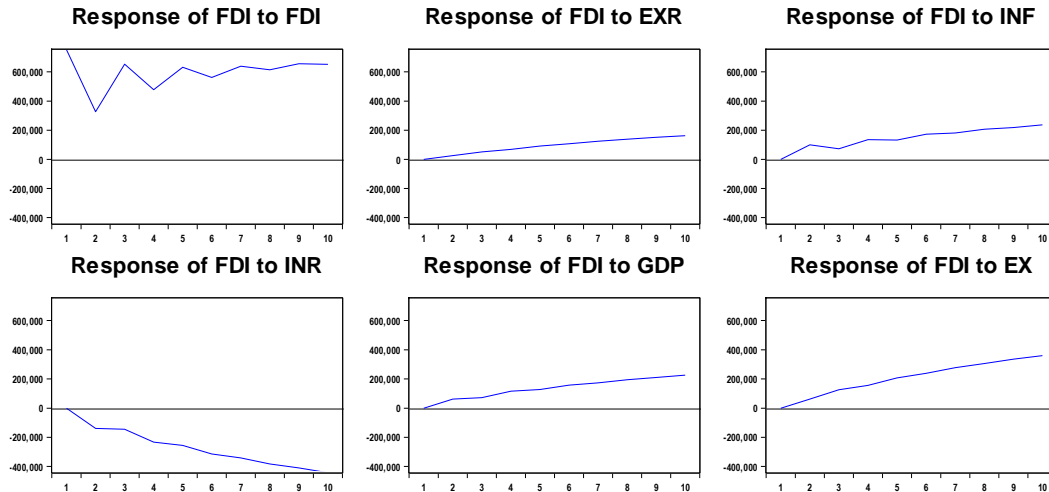**Figure 2 FDI Response to Shock**

Figure 2 shows the response of FDI to shocks that occur in FDI, exchange rate, inflation, interest rate, GDP, and export. In the first period, the reaction of FDI to a one standard deviation shock on FDI itself is pretty significant; the response is still relatively large until the sixth period, then the response begins to decline with slight fluctuations until the next period. Meanwhile, shocks to exchange rates, inflation, interest rates, GDP, and exports do not significantly impact FDI in the first period. The response of FDI to shocks in exchange rate, inflation, GDP, and export in the following periods shows a slight fluctuation with a positive trend (increase). Meanwhile, the response of FDI to interest rate shocks in the subsequent periods shows a little fluctuation with a negative trend (decrease).

Forecast Error Variance Decomposition

Variance decomposition analysis aims to understand how much each variable contributes to a particular variable in percentage. The analysis involves breaking down or variance decomposition of the total of a variable into parts that represent the contribution of each variable involved. This shows how much each variable explains variations or changes in other variables (Lütkepohl, 2005, p. 65). The outcomes of variance decomposition for ten periods are as follows:

Table 9. Variance Decomposition of FDI

Period	FDI	EXR	INF	INR	GDP	EX
1	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	94.73539	0.093812	1.386021	2.707526	0.535197	0.542050
3	92.64533	0.279281	1.274362	3.389179	0.755476	1.656371
4	86.75886	0.519978	2.193464	6.177817	1.463034	2.886845
5	82.99324	0.780944	2.468478	7.689121	1.865980	4.202234
6	78.01975	1.056875	3.100101	9.871311	2.440134	5.511829
7	74.31369	1.305516	3.458325	11.36745	2.848281	6.706739
8	70.44351	1.544019	3.910117	12.98516	3.288309	7.828883

| 9 | 67.31723 | 1.753507 | 4.233446 | 14.23790 | 3.636751 | 8.821162 |
| 10 | 64.34488 | 1.946209 | 4.565329 | 15.44597 | 3.972839 | 9.724773 |

The variance decomposition results in Table 9 show the contribution of each variable to the variation in the FDI variable. In the second period, FDI inflows are influenced by their own shocks by 94.7%; in the sixth and tenth periods, they decrease to 78.0% and 64.3%, respectively. So, in the long run, the influence of FDI decreases. The results in Table 10 also show the contribution of the influence of other variables. In two periods (short term), the exchange rate, inflation, interest rate, GDP, and export variables can explain 0.09%, 1.39%, 2.71%, 0.54%, and 0.54% of FDI inflows. So, it can be seen that FDI inflows are influenced by interest rates and inflation in the short term, in addition to being influenced by themselves. However, the effect of interest rates on FDI inflows is more significant than inflation as the period increases. This is shown in the sixth period, where interest rates contributed 9.87% while inflation contributed 3.10%. In the tenth period (long term), the contribution of exchange rate, inflation, interest rate, GDP, and export variables explained 1.95%, 4.57%, 15.45%, 3.97%, and 9.72%. Based on these results, it can be seen that interest rates have the most significant influence on FDI inflows in Indonesia in the short and long term. Then, the inflation variable has a more powerful influence in the short term than the exchange rate, GDP, and exports. Meanwhile, in the long term, the export variable has a more substantial influence than the exchange rate, inflation, and GDP on variations in FDI inflows in Indonesia.

The Effect of Exchange Rate on FDI

Based on the findings, the preceding period's exchange rate significantly and adversely affects long-term FDI. As a result, FDI declines in the long term when the exchange rate increases from the prior period. This result is consistent with Najeem Ayodejil Isiaka in Sub-Saharan African Countries (Isiaka et al., 2022, p. 186). Meanwhile, analysis reveals that the exchange rate has an adverse impact but no impact on FDI in the short term. Consequently, the short-term drop in FDI in Indonesia is not significantly impacted by the prior period's increase in the exchange rate. Our findings align with Niaz Morshed in Bangladesh (Morshed & Hossain, 2022, p. 21) and Saliha Meftah in Turkey between 1974-2017 (Meftah & Nassour, 2019, p. 201). A country with a robust economic system has a stable foreign exchange rate that is resistant and not easily vulnerable to fluctuations in the world money market. Investors can see fluctuations in foreign exchange rates with the Bank Indonesia Exchange Rate indicator (Alamsyahbana, 2022, p. 27). A stable exchange rate is essential for investors to accurately estimate the production costs that will arise during the production process and anticipate receiving their investment back in addition to any profits made. This is crucial for international trade, particularly for investors who want to export the goods they produce (Rijal, 2022, p. 17).

The Effect of Inflation on FDI

The previous period's inflation factor significantly adversely impacts FDI in the long run. In other words, an increase in an earlier period of inflation leads to a

reduction in FDI. This finding aligns with Muhammad Mahmud Mostafa in Bangladesh (Mostafa, 2020, p. 66) and The Yi Hong in Malaysia and Iran (Hong & Ali, 2020, p. 213). The previous period's inflation has a positive and insignificant impact on FDI. Thus, an increase in an earlier period of inflation does not immediately affect Indonesia's rise in FDI. Our findings are in line with research conducted by Fuat Sekmen in Turkey (Sekmen & Gökirmak, 2020, pp. 77–78), Akpensuen Shiaondo Henry in Nigeria between 1971-2019 (Henry et al., 2020, p. 639), and Muhammad Mahmud Mostafa in Bangladesh (Mostafa, 2020, p. 66). The supply side, the demand side, and inflation expectations all contribute to inflationary pressures (Aji & Mukri, 2020, p. 71). High demand for goods and services relative to supply causes demand-pull inflation. People's purchasing power decreases when inflation rises. People's purchasing power for goods will decrease if price increases persist. Inflation can also raise the risk of business failure, which deters FDI in the nation (Rijal, 2022, p. 17).

The Effect of Interest Rates on FDI

In the long run, prior period interest rates have positively and significantly affected FDI. In this case, an increase in interest rates during the previous era impacted long-term FDI growth. This result is consistent with Apriliana in Indonesia from 1999 and 2021 (Apriliana & Soebagiyo, 2023, p. 321) and Najeem Ayodejil Isiaka in Sub-Saharan African Countries (Isiaka et al., 2022, p. 186). The interest rate from the prior period has an insignificant negative impact on FDI. As a result, the preceding period's increase in interest rates has had little effect on the short-term drop in FDI in Indonesia. This outcome is consistent with Defrianto Wahyu Putra Pratama between 2010 and 2020 (Pratama & Setyowati, 2022, p. 329), Zulfa between 2015-2022 (Zulfa & Millati, 2023, p. 247), and Najeem Ayodejil Isiaka in Sub-Saharan African Countries (Isiaka et al., 2022, p. 186). The interest rate represents one of the aspects that influences an individual's choice to save or invest. Interest rates play a significant role in the decision-making process regarding wealth accumulation. Higher interest rates make assets more appealing (Ompusunggu & Wage, 2021, p. 59). The three components of interest rate structure are accurate interest rates, inflation, and interest rate risk. Regardless of the time until maturity, the real interest rate is the primary factor that establishes the interest rate of any debt obligations. All bond interest rates often rise with actual interest rates (Octama, 2022, p. 14).

CONCLUSION

The gap in this study lies in the significant changes in Indonesia's economic conditions and investment policies since 2007, which previous studies have not fully explained. The possibility of new factors affecting FDI flows requires more up-to-date analyses. On the other hand, this study's main strength lies in using VECM to understand the long-run and short-run relationships between macroeconomic variables and FDI and the integration of internalization investment theory that can provide new insights into the factors affecting FDI. The findings show that currency exchange rates negatively and significantly impact FDI in the long run regarding specific variables. In contrast, inflation hurts FDI in the long run. Meanwhile, interest rates significantly

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positively impact FDI in the long run. Meanwhile, in the short term, currency exchange rates, inflation, and interest rates have no significant effect on FDI.

Given these findings, companies and investors concentrating on long-term investments must be aware of currency fluctuations as they greatly influence changes in long-term FDI. To reduce investment risk, investors may consider hedging their investments. In addition, as inflation and interest rates significantly impact FDI receipts, the government and central banks should prioritize policies to maintain a stable inflation rate. In the long run, an effective monetary policy to control inflation may attract foreign investors to invest in Indonesia. In addition, special attention and oversight of interest rate regulation is needed to facilitate foreign investment in response to significant interest rate changes, which can be aided by careful monitoring of economic and financial market conditions.

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