International Journal of Economics, Management and Accounting

E-ISSN: 3046-9376
P-ISSN: 3048-0396

Research Article

Determinants Analysis Of Indonesia's Foreign Exchange Reserves In 1990-2023

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Abstract: Foreign exchange reserves are one of the key indicators in international trade, reflecting the fundamental strength of a country's economy. They serve as a benchmark to assess the robustness of a nation's economic condition and indicate its ability to engage in international trade. Several factors influence Indonesia's foreign exchange reserves, including export value, exchange rate, and foreign direct investment (FDI). This study aims to analyze the simultaneous impact of export value, exchange rate, and FDI on Indonesia's foreign exchange reserves, as well as their partial effects. The data analysis technique employed in this research is multiple linear regression. The findings reveal that export value, exchange rate, and FDI significantly influence Indonesia's foreign exchange reserves simultaneously. Partially, export value and exchange rate have a positive and significant impact, while FDI has a positive but statistically insignificant effect. It can be concluded that increasing export value and maintaining exchange rate stability play a crucial role in sustaining and enhancing Indonesia's foreign exchange reserves.

Keywords: Export Value, Exchange Rate, Foreign Direct Investment, Indonesia's Foreign Exchange Reserves

1. INTRODUCTION

International trade contributes to increasing national foreign exchange income and serves as a crucial source of funding for economic development. Foreign exchange reserves are a key indicator reflecting a country's economic strength and its ability to engage in international trade. The size of foreign exchange reserves is significantly influenced by various factors in a country's balance of payments. According to the Financial Services Authority (OJK), foreign exchange reserves refer to assets held by the central bank in different reserve currencies. The International Monetary Fund (IMF) defines them as total foreign assets that can be used to balance the payments system and maintain monetary stability. Foreign exchange reserves play a vital role in international trade transactions as they provide essential funding for a nation. The larger the reserves, the stronger a country's ability to conduct global trade and sustain its currency value.

Foreign exchange reserves also act as a safeguard against global economic and financial crises. Countries with sufficient reserves are better equipped to withstand external pressures and maintain economic stability. Without adequate reserves, a country may struggle with international trade transactions and attracting foreign investment. Therefore, governments must continuously strengthen economic diplomacy, investment, and international trade to enhance their foreign exchange reserves. Economic crises, such as those

Received: April, 19 2025
Revised: April, 29 2025
Accepted: May, 20 2025
Online Available: May, 24 2025
Curr. Ver.: May, 24 2025

in 1997-1998 and 2008-2009, significantly impacted Indonesia's foreign exchange reserves. The COVID-19 pandemic also caused economic shocks, reducing exports and weakening the rupiah's exchange rate. Global demand declines and travel restrictions affected trade, tourism, and foreign investment, while economic uncertainty and financial market volatility worsened the situation, further straining reserves and slowing economic growth. Consequently, sound economic policies are essential to maintaining economic stability and strengthening a nation's foreign exchange reserves.

Indonesia's foreign exchange reserves fluctuated between 1990 and 2023, with a recorded position of $145.1 billion at the end of January 2024, down from $146.4 billion in December 2023. This decline was influenced by the maturity of government foreign debt payments; however, the reserves remain above the international adequacy standard of approximately three months of imports. The development of Indonesia's foreign exchange reserves from 2013 to 2023 is presented in Table 1.

Table 1. Development of Indonesia's Foreign Exchange Reserves 2013-2023 (Billion US$)

Year	Foreign Exchange Reserves (Billion US$)	Development (%)
2013	99,387	
2014	111,862	12.55
2015	105,931	-5.30
2016	116,362	9.85
2017	130,196	11.89
2018	120,654	-7.33
2019	129,183	7.07
2020	135,897	5.20
2021	144,905	6.63
2022	137,233	-5.29
2023	146,383	6.67

Source: Central Statistics Agency, (Data processed 2024)

One of the factors that affects foreign exchange reserves is exports. Exports are one source of foreign exchange reserves. Export is the process of selling goods or services in order to gain profit by paying attention to applicable regulations. Export activities have a very important role in driving economic growth and improving the welfare of a country. Although in general Indonesia's economic fundamentals are still good, vigilance is still needed, especially regarding external factors (Adhitya, 2021).

A comparison of exports from 2013-2023 can be presented in Table 2 below.

Table 2. Development of Indonesia's Export Value 2013-2023 (Billion US$)

Year	Export Value (Billion US$)	Development (%)
2013	182,551	
2014	175,980	-3.60
2015	150,366	-14.56
2016	145,134	-3.48
2017	168,828	16.33
2018	180,012	6.62
2019	167,683	-6.85
2020	163,191	-2.68
2021	231,609	41.93
		26.03

2022	291,904	-11.34
2023	258,797	

Source: Central Statistics Agency, (Data processed 2024)

The increase in industrial production in Indonesia also contributed to the increase in exports. However, Indonesia's export value in 2023 was recorded at 258.825 billion US%, slightly below the export achievement in 2022 of 291.907 billion US$. The slowdown in export value is in line with the moderation in the prices of Indonesia's leading commodities, such as palm oil and coal. In addition, the economic slowdown in a number of Indonesia's main trading partner countries also contributed to the slowdown in Indonesia's export value (Ministry of Finance, 2024).

In addition to exports, international trade relations will be related to the rupiah exchange rate. The exchange rate or exchange rate can be explained as the amount of domestic money needed to buy one unit of a particular foreign currency (Sukirno, 2013: 21). The exchange rate is a means of payment in the activities and transactions of a country with other countries. So that the exchange rate will determine the income or inflow received by a country and the value of a country's expenditure which will then affect the position of foreign exchange reserves.

Excess foreign exchange reserves also have an important role in reducing exchange rate fluctuations and encouraging a country's economic progress (Juliansyah*et al.,*2020). Lack of foreign exchange reserves can cause an inability to make international trade payments and result in exchange rate instability. This can result in a trade balance deficit and a decline in the rupiah exchange rate (Masitha & Pangidoan, 2020). The development of the Rupiah exchange rate against the US Dollar in 2013 - 2023 is presented in table 3 below.

Table 3. Development of Rupiah Exchange Rate against US Dollar 2013-2023 (Rupiah)

	Value of USD 1 in Rupiah	
2013	10,461	13.42
2014	11,865	12.84
2015	13,389	-0.60
2016	13,308	0.55
2017	13,381	6.40
2018	14,237	-0.62
2019	14.148	3.07
2020	14,582	-1.88
2021	14,308	3.79

2022	14,850	2.61
2023	15,237	

Source:World Bank, (Data processed 2024)

According to World Bank data, Indonesia's exchange rate fluctuated between 2013 and 2023, with an average growth rate of 4.02%. During this period, the rupiah remained above IDR 10,000 per USD, indicating depreciation. In 2013, the rupiah stood at IDR 10,461, experiencing significant pressure due to the U.S. Federal Reserve's tapering policy, which led to capital outflows from emerging markets, including Indonesia. Additionally, Indonesia's high current account deficit further weakened the rupiah. The exchange rate continued to depreciate in 2014, reaching IDR 11,865, as falling global commodity prices impacted Indonesia's export revenues. By 2018, the exchange rate weakened further to IDR 14,237 due to the strengthening U.S. dollar following the Federal Reserve's interest rate hikes.

In 2019, the rupiah slightly appreciated to IDR 14,148, supported by a more stable global economy and accommodative monetary policies from Bank Indonesia. However, in 2020, the exchange rate depreciated significantly to IDR 14,582 due to the COVID-19 pandemic, which created global uncertainty and economic disruptions. Foreign investors withdrew funds from emerging markets, including Indonesia, in favor of safer assets like the U.S. dollar, leading to increased dollar demand and further rupiah depreciation. High uncertainty and global financial market volatility also led to negative market sentiment and speculation against the rupiah, causing sharp fluctuations.

In 2021, the rupiah strengthened to IDR 14,308, driven by COVID-19 vaccine rollouts and the easing of restrictions, which boosted global economic recovery and increased Indonesia's export demand. Foreign investors regained interest in emerging market assets, including Indonesia, as global market sentiment improved. Additionally, the U.S. Federal Reserve maintained low interest rates, reducing the appeal of the dollar and encouraging capital inflows into emerging markets. The Indonesian government also launched various fiscal stimulus programs, including the National Economic Recovery Program (PEN), to support domestic consumption and investment, further enhancing investor confidence and strengthening the rupiah.

However, in 2022, the rupiah significantly depreciated again, reaching IDR 14,850. This decline was due to geopolitical tensions, such as the Russia-Ukraine war and U.S.-China competition, which created uncertainty in global financial markets. The U.S. Federal Reserve's aggressive interest rate hikes also triggered capital outflows from emerging markets, including Indonesia, as investors sought safer assets in the U.S. The rising domestic demand for U.S. dollars further strengthened the dollar against the rupiah. Additionally, surging oil and commodity prices put pressure on Indonesia's trade balance, leading to a current account deficit, although smaller than in previous years.

By 2023, the rupiah weakened further to IDR 15,237, marking its lowest exchange rate in the past decade. This depreciation was influenced by external factors such as U.S. monetary policies and global uncertainty, as well as internal factors like high domestic inflation, trade balance deficits, and political issues.

Foreign direct investment (FDI) is one of the key contributors to foreign exchange reserves. According to the International Monetary Fund (IMF), FDI refers to an investment

where the investor gains significant control or influence over a company's management in another country's economy. FDI serves as a primary source of capital inflows into Indonesia. In the short term, its impact may not be immediately significant, as investments require time to be processed and developed before they can enhance international trade activities. The realization of FDI in Indonesia from 2013 to 2023 is presented in Table 4.

Table 4. Development of Realization of FDI Investment 2013-2023 (Billion US$)

Year	FDI Investment Realization (Billion US$)	Development (%)
2013	28,617	
2014	28,529	-0.30
2015	29.275	2.61
2016	28,964	-1.06
2017	32,239	11.31
2018	29,307	-9.09
2019	28.208	-3.75
2020	28,666	1.62
2021	31,093	8.47
2022	45,605	46.67
2023	50,267	10.22

Source: Central Statistics Agency, (Data processed 2024)

Based on Table 4, Foreign Direct Investment (FDI) in Indonesia fluctuated annually from 2013 to 2020 but experienced a significant surge in 2022 and 2023. In 2017, FDI saw a substantial increase, reaching $32.239 billion, reflecting an 11.31% growth from the previous year. This surge was attributed to pro-investment policies and improved economic stability. However, in 2018, FDI declined by 9.09% to $29.307 billion due to global market uncertainties and exchange rate fluctuations. The downward trend continued in 2019, with FDI decreasing by 3.75% to $28.208 billion.

In 2020, despite the severe economic impact of the COVID-19 pandemic, Indonesia recorded a slight increase in FDI inflows by 1.62%, reaching $28.666 billion. This growth highlighted Indonesia's relative economic resilience compared to other countries during the global crisis. The recovery gained momentum in 2021, with FDI increasing by 8.47% to $31.093 billion. This growth was driven by key factors such as government policies supporting investment, significant infrastructure development, and effective pandemic response management. Additionally, the reopening of international trade and stable economic policies boosted investor confidence. The rapid expansion of the digital sector also played a crucial role in enhancing Indonesia's attractiveness as an investment destination, as digitalization continued to drive global economic growth.

In 2022, Indonesia experienced an extraordinary surge in FDI, growing by 46.67% to $45.605 billion. This sharp increase reflected the country's economic recovery and growing global investor interest in Indonesia as a stable and rapidly developing market. The momentum continued in 2023 despite global challenges and economic uncertainties, with FDI increasing by 10.22% to $50.267 billion. This growth demonstrated strong investor confidence in Indonesia's economic prospects, driven by factors such as infrastructure advancements, conducive economic policies, political stability, and the continued expansion of the digital

sector. These trends underscore the high level of trust in Indonesia's long-term economic potential.

2. RESEARCH METHODS

This study employs a quantitative approach using secondary data to analyze the relationship between dependent and independent variables through statistical methods. Additionally, a descriptive approach is applied to understand observed phenomena based on data obtained from credible sources. The research focuses on Indonesia, with data collected from institutions such as the Central Bureau of Statistics, Bank Indonesia, the Ministry of Finance, and the Investment Coordinating Board.

The study examines foreign exchange reserves as the dependent variable, while exports, exchange rates, and Foreign Direct Investment (FDI) serve as independent variables. The dataset consists of time-series data from 1990 to 2023, comprising a total of 136 observations. Data is gathered through literature reviews, including academic papers, journals, and official publications.

Data analysis is conducted using multiple linear regression, starting with descriptive statistical analysis and classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests. The model is further evaluated using the coefficient of determination (R^2), model feasibility test (F-test), and hypothesis testing (t-test) to assess the impact of independent variables on the dependent variable.

3. RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Table 5. Results of Descriptive Statistical Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Indonesia Foreign Exchange Reserves (Y)	34	8661.30	146383.75	66832.9244	48887.69494
Export Value (X1)	34	25675.30	291904.30	115927.7000	72764.74367
Exchange Rate (X2)	34	1901.00	15236.88	9009.4438	4365.49357
Foreign Direct Investment(X3)	34	5977.00	50267.50	21280.7621	11667.47331

Source: Processed Data, 2025 (Appendix 2)

It can be seen in Table 5 the results of descriptive analysis, the mean value of the Indonesian foreign exchange reserves variable is 66832.9244, then the maximum value is 146383.75 and the minimum value is 8661.30 and the standard deviation value is 48887.69494. From the export value variable the mean value is 115927.7000 then the maximum value is 291904.30, the minimum value is 25675.30, and the standard deviation value is 72764.74367. Furthermore, from the exchange rate variable the mean value is 9009.4438, the maximum value is 15236.88, the minimum value is 1901.00 and the standard deviation value is 4365.49357. In the foreign direct investment variable, the mean value is 21280.7621, the maximum value is 50267.50, the minimum value is 5977.00 and the standard deviation value is 11667.47331.

In this study, the Multiple Linear Regression method was used with a sample size of 34 data, taken from each variable in the form of annual data from 1990-2023 sourced from the official online media of Bank Indonesia, Central Bureau of Statistics (BPS) and World Bank.

Classical Assumption Test Results

Normality Test

Table 6. Data Normality Test Results

	Unstandardized Residual
N	34
Test Statistics	.098
Asymp. Sig. (2-tailed)	.200

Source: Processed Data, 2025 (Appendix 3)

Based on Table 6 above, it is known that the value of the Test Statistic in the regression model is 0.098 with a significance level at Asymp.Sig (2-tailed) of 0.200. This value is greater than α = 5 percent (0.05), this result states that the data is normally distributed and the regression model created is suitable for further analysis.

Multicollinearity Test

Table 7. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
Export Value	.247	4,047
Exchange rate	.351	2,852
Foreign Direct Investment	.560	1,786

Source: Processed Data, 2025 (Appendix 4)

Based on Table 7, it can be seen that none of the variables contain multicollinearity. Each variable has a tolerance value of more than 0.1 and a VIF value of less than 10, so it can be concluded that this model does not experience or does not experience symptoms of multicollinearity.

Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1723.036	3371.461		.511	.613
Export Value	.017	.035	.150	.477	.637
Exchange rate	.672	.489	.363	1,376	.179
Foreign Direct Investment	.037	.145	.054	.259	.797

Source: Processed Data, 2025 (Appendix 5)

Based on Table 8 presents the data of heteroscedasticity test results using the Glejser Method by regressing the independent variables against the absolute residual. export value (X1), exchange rate (X2), and foreign direct investment (FDI) (X3) have a significance value greater than the level of significance that has been set (0.05). This means that there is no relationship between the independent variables and the absolute residual, so it can be concluded that there is no heteroscedasticity.

Autocorrelation Test

Table 9. Autocorrelation Test Results

R	R Square	Adjusted R Square	Durbin- Watson
.962	.925	.918	1,735

Source: Processed Data, 2025 (Appendix 6)

Based on table 9, it can be seen that the results of the autocorrelation test using the Durbin-Watson test show that the Durbin-Watson value is 1.735, which is in accordance with the decision making, namely 1.6519 < 1.735 < 2.3481. So it can be concluded that the model contains autocorrelation symptoms.

Multiple Linear Regression Analysis Results

Table 10. ResultsMultiple Linear Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-21995.346	6525.082		-3.371	.002
Export Value	.438	.068	.651	6.475	.000
Exchange rate	3.288	.945	.294	3.478	.002
Foreign Direct Investment	.399	.280	.095	1,424	.165

Source: Processed Data, 2025 (Appendix 7)

From the results of the multiple linear regression analysis in Table 10, the following equation can be made:

$$Y = -21995 + 0.438\ X_1 + 3.288\ X_2 + 0.399\ X_3$$
$$t = (-3.371) \quad (6.475) \quad (3.478) \quad (1.424)$$
$$Sig = (0.002) \quad (0.000) \quad (0.002) \quad (0.165)$$

Based on the multiple linear regression model above, the following information was obtained.

1) The constant of -21995 shows that if the export value (X1), exchange rate (X2), and foreign direct investment (X3) are 0, then the Indonesian foreign exchange reserves variable (Y) is -21995 with a significance level of 0.002 < αlpha (0.05).
2) The regression coefficient on the export value variable (X1) of 0.438 means that every one coefficient increase in the export value coefficient (X1) will increase 0.438 billion in the Indonesian foreign exchange reserves coefficient (Y), with a significance level of 0.000 < αlpha (0.05).
3) The regression coefficient on the exchange rate variable (X2) is (3.288) which means that every one coefficient increase in the exchange rate variable coefficient (X2) will increase the Indonesian foreign exchange reserves coefficient (Y) by (3.288), with a significance level of 0.002 < αlpha (0.05).
4) The regression coefficient on the foreign direct investment variable (X3) of 0.399 means that every one coefficient increase in the coefficient of the foreign direct investment variable (X3) will increase the coefficient of Indonesia's foreign exchange reserves (Y) by 0.399, but this result is not statistically significant with a significance level of 0.165 < αlpha (0.05).

Coefficient of Determination Test (R2)

Table 11. Results of the Determination Coefficient Test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.962	.925	.918	14039.96709

Source: Processed Data, 2025 (Appendix 7)

Based on the table above, it is known that the determination coefficient value (R2) is 0.925, this shows that the proportion of the influence of the export value variable (X1), exchange rate (X2), and foreign direct investment (X3) on Indonesia's foreign exchange reserves (Y) is 92.50 percent while the remaining 7.50 percent is influenced by other variables not examined in this study.

F Test

Table 12. F Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72956601372.485	3	24318867124.162	123,370	.000 b
	Residual	5913620274.367	30	197120675.812		
	Total	78870221646.851	33			

Source: Processed Data, 2025 (Appendix 7)

Based on the data in the table above, the calculated F value is 123.370 with a significance value of 0.000. The number of n is 34, the number of independent variables is 3, then nk-1 is 30 so that the F table is 2.92. It can be concluded that the test results obtained a significance value of 0.000 <0.05 and the calculated F (123.370)> from the F table (2.92), then the conclusion is that H0 is rejected and H1 is accepted, which means that the export value (X1), exchange rate (X2), and foreign direct investment (FDI) (X3) have a significant effect simultaneously on foreign exchange reserves (Y) in Indonesia.

Hypothesis Testing

Table 13. Hypothesis Test Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-21995.346	6525.082		-3.371	.002
X1	.438	.068	.651	6.475	.000
X2	3.288	.945	.294	3.478	.002
X3	.399	.280	.095	1,424	.165

Source: Processed Data, 2025 (Appendix 7)

Based on the partial test (t-test), it can be seen that the export value and exchange rate variables have a positive effect on Indonesia's foreign exchange reserves.

The partial calculation results of the influence of export value on Indonesia's foreign exchange reserves obtained a regression coefficient of 0.438 with a calculated t value of 6.475> t table 1.697 and a probability value of 0.000 <0.05, because the probability value is less than 0.05 then H0 is rejected and H1 is accepted, so it can be concluded that the export value

variable has a positive effect on Indonesia's foreign exchange reserves, where the higher the export value, the higher Indonesia's foreign exchange reserves.

The partial calculation result of the influence of the exchange rate on Indonesia's foreign exchange reserves obtained a regression coefficient of 3.288 with a calculated t value of 3.478> t table 1.697 with a probability value of 0.002 <0.05, because the probability value is smaller than 0.05 then H0 is rejected and H1 is accepted, so it can be concluded that the exchange rate variable has a positive effect on foreign exchange reserves, meaning that the more the rupiah exchange rate appreciates against the USD, the more foreign exchange reserves will increase. The partial calculation result of the influence of foreign direct investment on foreign exchange reserves obtained a regression coefficient of 0.399 with a calculated t value of 1.424 <t table 1.697 with a probability value of 0.165> 0.05, because the probability value is greater than 0.05 then H0 is accepted and H1 is rejected, so it can be concluded that the foreign direct investment variable has a positive effect on foreign exchange reserves, where the higher the foreign direct investment, the more foreign exchange reserves will increase, but this result is not statistically significant.

Discussion of Research Results

The Effect of Export Value on Indonesia's Foreign Exchange Reserves

Regression analysis results indicate that export value has a positive and significant impact on Indonesia's foreign exchange reserves. This means that an increase in Indonesia's export value will lead to a higher accumulation of foreign exchange reserves.

The positive coefficient of export parameters can be explained by the fact that every domestic product transaction sold to foreign parties generates revenue for the country. Export transactions involve the use of foreign currency, and due to exchange rate differences, foreign exchange reserves automatically increase. The more goods exported, the higher the country's foreign exchange earnings (Gandhi, 2006). Theoretically, this aligns with Todaro (2001), who stated that a country's export activities generate revenue in foreign currency or foreign exchange, which serves as one of the nation's income sources.

The Effect of Exchange Rates on Indonesia's Foreign Exchange Reserves

Regression analysis results show that exchange rates have a positive and significant impact on Indonesia's foreign exchange reserves. This indicates that when the rupiah appreciates against the US dollar, foreign exchange reserves increase.

The significant influence of exchange rates on foreign exchange reserves can be explained by Fredric S. Mishkin's (2001) theory, which states that foreign exchange reserves play a crucial role in determining a country's exchange rate position. An increase in foreign exchange reserves in the balance of payments can drive the appreciation of the rupiah. The more foreign exchange reserves held by the government and residents of a country, the stronger its ability to engage in international economic and financial transactions, ultimately strengthening its currency.

According to research findings, exchange rate appreciation strengthens Indonesia's foreign exchange position. This means that the conversion of US dollars into rupiah increases, enhancing Indonesia's ability to attract investment and foster economic growth. A rising exchange rate can encourage foreign investors to invest in Indonesia. From a macroeconomic perspective, this situation boosts production and national economic growth. If the rupiah strengthens alongside economic stability, Indonesia's foreign exchange reserves will also

increase. This is because investor interest in domestic financial markets grows, leading to a current account surplus and, consequently, higher foreign exchange reserves.

The Effect of Foreign Direct Investment on Indonesia's Foreign Exchange Reserves

Regression analysis results show that foreign direct investment (FDI) has a positive but statistically insignificant impact on Indonesia's foreign exchange reserves. This means that while an increase in FDI contributes to foreign exchange reserves, the effect is not statistically significant.

The insignificant impact of FDI on foreign exchange reserves is due to its indirect effect on Indonesia's economic growth. FDI influences the economy in the medium term rather than the short term, meaning its impact is not immediately felt. Since FDI is a form of investment, its benefits take time to materialize. As a result, an increase in FDI does not immediately lead to the accumulation of foreign exchange reserves.

Nonetheless, foreign investment plays a role in increasing foreign exchange reserves. The increase in reserves is not solely derived from investment transactions converted into local currency but also from long-term economic sector growth, including goods and services. FDI enhances production capacity, creates jobs, and boosts exports, which in turn strengthens foreign exchange reserves. When FDI drives export growth, it contributes to foreign exchange accumulation, meaning that in the long run, foreign investment positively affects economic growth and foreign exchange reserves.

4. CONCLUSION AND SUGGESTIONS

The regression analysis results examining the effect of export value, exchange rates, and foreign direct investment on Indonesia's foreign exchange reserves lead to the following conclusions:

1) Simultaneous testing (F-test) confirms that export value, exchange rates, and foreign direct investment collectively have a significant impact on Indonesia's foreign exchange reserves.
2) Partial testing results indicate:
    a. Export value has a positive and significant impact on Indonesia's foreign exchange reserves.
    b. Exchange rates have a positive and significant impact on Indonesia's foreign exchange reserves.
    c. Foreign Direct Investment has a positive but statistically insignificant impact on Indonesia's foreign exchange reserves.

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