

## Determinant Factors on Indonesia's Economic Growth: An Analysis of Foreign Debt, Foreign Investment, Exports, and Exchange Reserves



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**ABSTRACT:** The study objective is to examine the impact of foreign debt, foreign investment, exports, and exchange reserves on Indonesia's economic growth, specifically quarterly data spanning the years 2008 to 2018. Furthermore, a variety of tests were employed to analyze the data, including stationarity, causality, cointegration, statistical, and ARCH-GARCH analysis. Among these, the GARCH (2.2) model is considered the most effective for conducting ARCH-GARCH analysis. The results demonstrate that foreign debt, foreign investment, and exports positively and significantly affect Indonesia's economic growth. On the other hand, the exchange reserves variable negatively and significantly impacts Indonesia's economic growth. Therefore, it can be concluded that foreign debt, foreign investment, as well as exports contribute positively to the country's economic growth, while exchange reserves have a detrimental effect.

**KEYWORDS:** Foreign Debt, Foreign Investment, Exports, Exchange Reserves, Economic Growth.

**JEL Classification:** O11, O23, O53, P33

### I. INTRODUCTION

Economic growth is typically measured by an increase in real Gross National Product or Income. To achieve this growth, it is crucial to strike a balance between development funds and the necessary capital. However, the availability of domestic savings is often limited, making it necessary to rely on foreign debt as counterpart funds to make up for the shortage of development funds. As the reliance on foreign debt continues, it has become a significant source of funds to cover fiscal deficits. Consequently, foreign investment and exports have become vital drivers of economic growth, as there is insufficient domestic investment resulting from the lack of available funds.

The Central Agency of Statistics (BPS) plays a crucial role in providing data on economic growth in Indonesia. Over the years, Indonesia has experienced fluctuations in its economic growth. Based on the latest available data from the third quarter of 2018, Indonesia's economic growth reached 5.17%, showing an increase compared to the same period in the previous year, where it stood at 5.06%. Furthermore, in 2017, the country achieved an annual economic growth rate of 5.07%, marking the highest recorded figure since 2014. Although Indonesia's economic growth has witnessed fluctuations, it remained relatively stable at 5.69% in 2005. A slight decline was observed in 2006, with the growth rate dropping to 5.5%. However, the economy bounced back the following year, recording a growth rate of over 6%, specifically 6.35%. Despite a minor dip to 6.01% in 2008, economic growth still remained above 6%. During this period, Indonesia experienced relatively high import levels, but significant export figures helped maintain a relatively balanced trade balance.

The anticipated economic growth for the fourth quarter of 2018 is expected to be lower than the assumption set in the State Budget. Bank Indonesia predicts that it will not surpass the threshold of 5%. Despite these fluctuations in economic growth, the Indonesian government has implemented various measures to boost the pace of the economy. While achieving a 7% economic growth target remains challenging, the government has set a more realistic goal for 2019, with an assumed rate of 5.3% in the Annual State Budget (APBN). Towards the end of 2018, there were visible signs of the government taking action to address the issue of raw commodities. Value addition to these commodities before exportation became a priority, and certain regulations were relaxed to facilitate this process. These policy changes aimed to enhance the economic growth trajectory. The changes in economic growth are influenced by several factors, including foreign debt, foreign investment, exports, and foreign exchange reserves.

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Foreign debt refers to the financial assistance obtained from other countries to support development efforts. It is one of several financing alternatives available to governments to increase investment and support economic growth to (Basri, 2000). Indonesia, like other countries in Southeast Asia, has experienced various economic crises, including a monetary crisis. These crises were triggered by an imbalance in the international balance of payments, which ultimately led to a depreciation of the national currency against foreign currencies.

In the context of economic development, foreign investment plays a crucial role. It serves as a driving force behind economic growth and development activities. However, the Indonesian government faces challenges in providing sufficient capital for economic development. Relying solely on domestic capital is insufficient to meet the required funding needs. Therefore, countries like Indonesia seek alternative sources of capital besides foreign loans. Foreign investment emerges as a viable solution that can propel economic growth and development in Indonesia.

Exports refer to the process of selling goods or commodities to foreign countries, with the expectation of receiving payment in foreign currencies (Amir, 2004). A deficit occurs when the value of exports is lower than imports (Boediono, 1981), which can be caused by greater government spending compared to income received. Such economic conditions disrupt national development due to a lack of funds for investment. To cover the deficit, the government has resorted to a foreign debt policy as domestic sources of funds are limited (Atmadja, 2000). The impact of exports on a country's economic growth is significant. Therefore, improving Indonesia's exports performance is imperative to enhance its economic growth.

Exchange reserves, on the other hand, are essential monetary indicators that reflect the strength or weakness of a country's economic fundamentals. They serve various functions such as financing foreign trade activities, settling payments for imported goods, and covering installments and interest on foreign loans. Maintaining an appropriate level of exchange reserves acts as a guarantee for achieving monetary and macroeconomic stability in a country (Tambunan, 2001).

Based on the background described above, the study has formulated a problem that revolves around assessing the impact of foreign debt, foreign investment, exports, as well as foreign exchange reserves on Indonesia's economic growth. The study aims to investigate the effects of these variables on Indonesia's economic growth, both.

## **II. PREVIOUS STUDY**

### **2.1. Literature Review and Theoretical Thinking Framework**

In his study titled "The Effect of Foreign Debt and Foreign Investment on Indonesia's Economic Growth for the Period of 2009-2014" (Rudi, 2016), the author conducted a multiple linear regression analysis to examine the relationship between the foreign debt and foreign investment variables on Indonesia's economic growth.

In the study titled "The Effect of Foreign Debt and Foreign Capital Investment on Economic Growth" (Malik & Kurnia, 2017), the researchers investigated the link between foreign debt, foreign capital investment, and economic growth. The results showed that both foreign debt and investment factors have a considerable positive impact on economic growth. This suggests that increases in foreign debt and foreign capital investment contribute to the overall growth of the economy. Another study conducted by (Putri, 2017) titled "The Effect of Exports, Foreign Investment, and Foreign Debt on Foreign Exchange Reserves in Indonesia for the Period 1996-2015" examined the relationship between exports, foreign investment, foreign debt, and foreign exchange reserves in Indonesia. The study discovered that Indonesia's foreign exchange reserves were significantly positively impacted by both exports and foreign debt variables.

In contrast, investment significantly negatively impacts Indonesia's foreign exchange reserves. (Rahman, Musadieg, & Sulasmiyati, 2017) presented a study titled, "The Effect of Foreign Debt and Exports on Economic Growth for the Period of 2005-2014". The results showed that exports have a considerable negative influence on economic growth, while the foreign debt variable has a significant positive impact. (Sayoga & Tan, 2017) conducted another study, "Analysis of Foreign Exchange Reserves in Indonesia and Affecting Factors". According to the results, the foreign debt and export value variables have a significant positive impact on foreign exchange reserves, whereas the exchange rate variable has a significant negative impact. (Syahputra, 2017) carried out another study "Analysis of Factors Affecting Economic Growth in Indonesia". Based on the results, the variables of exports, tax revenues, and exchange rates were found to have a significant positive impact on economic growth.

In another study titled "The Effect of Foreign Investment and Foreign Debt on Economic Growth in Indonesia for the Period of 2008-2017" (Putra & Sulasmiyanti, 2018), the researchers aimed to explore the relationship between foreign investment, foreign debt, and economic growth in Indonesia.

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## **2.2. Theoretical Basis**

The theoretical basis of the study revolves around the interrelationships among foreign debt, foreign investment, exports, foreign exchange reserves, and economic growth in Indonesia.

### **2.2.1. Foreign Debt**

Foreign debt refers to all loans and conventional forms of debt, including official cash loans and other forms of assets. Typically, these loans are intended to redirect resources from developed countries to developing countries for developmental purposes or income distribution (Todaro & Smith, 2014).

According to (Basri, 2000), Foreign debt is a portion of assistance in the form of programs and project assistance obtained from other countries. Foreign loans or debt represent a financing option necessary for development and can be utilized to augment investment to foster economic growth. Indonesian foreign loans are received by the government (public debt) or the private sector (private debt).

Foreign loans are divided into multilateral, bilateral, and dedicated loans. Meanwhile, in terms of loan terms, it is differentiated into concessional, semi-concessional, and commercial loans. Foreign debt typically arises due to a lack of capital within a country, which limits the availability of domestic sources of funding. As a result, the management of state loans becomes crucial for maintaining stability and promoting growth in national income.

### **2.2.2. Foreign Investment**

Foreign investment is an international flow of capital in which a company establishes or expands to another country. Consequently, it involves a transfer of resources and the exertion of control over foreign companies. Investors make foreign investments to gain profit from the business. Foreign Direct Investment (FDI) is one of the financings for national development in addition to exports, domestic savings, and foreign assistance. Moreover, foreign investment can be described as the net increase in the pre-existing capital stock, also known as the accumulation or formation of capital (Krugman, Obstfeld, & Melitz, 2014).

The policy atmosphere is a crucial factor when considering the benefits and costs of foreign investment to the recipient country. Multinational companies bring with them a package of production, management, and marketing technologies that can greatly impact the host economy. Therefore, it is essential for recipient countries to maximize the benefits derived from these factors and align them with their broader development goals (Hill, 1991).

### **2.2.3. Exports**

Exports refer to the process of selling goods to foreign countries using an approved payment system, along with pre-agreed terms of sale concerning quality, quantity, and other relevant factors. Meanwhile, exports demand represents the number of goods and services that need to be exported from one country to another. The process involves the act of transferring commodities or goods from a country to other foreign markets.

Exports positively affect a country's economic activities, as they represent the expenditure made by foreign residents on domestically produced goods. Similar to investment, they are also categorized as autonomous expenditures. Therefore, the income of a country is not a significant determinant of its exports level. The competitiveness of a country in foreign markets, economic conditions in other countries, foreign protection policies, and foreign exchange rates are the primary factors that determine the ability to export goods and services abroad.

A deficit in the balance of payments is caused because imports are greater than exports. To eliminate this, it can be pursued not only by limiting imports but also by increasing exports. Increasing exports is a complex process that relies on production capacity and foreign demand for goods. Furthermore, the willingness of foreign countries to purchase the goods is determined by their need for exported products and the quality of the goods sold relative to the production in other countries. It is expected that the performance of exports foreign exchange earnings will positively impact on the level of income.

The imposition of exports tax by the government can increase national income as it represents a form of revenue. However, it is important to note that the imposition should be conducted judiciously, considering the potential impacts on competitiveness and market demand.

### **2.2.4. Exchange Reserves**

Foreign exchange reserves represent a vital monetary indicator that reflects a country's economic fundamentals and overall financial stability. Maintaining an appropriate level of foreign exchange reserves is essential for ensuring monetary and macroeconomic stability. This is exemplified by Indonesia's experience during past economic crises, where the depletion of foreign exchange reserves exacerbated issues related to debt and led to significant economic challenges. This situation was particularly

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difficult for exporters and importers, forced to reduce or halt their activities due to the high value of the US dollar in the domestic foreign exchange market (Tambunan, 2001).

Foreign exchange policy is focused on maintaining a robust and dependable economic environment while simultaneously promoting exports and controlling imports. This policy also supports market stability and foreign exchange rates. To achieve the goals, Indonesia has adopted a free foreign exchange system, which allows unrestricted inflows and outflows of foreign currency. While this system offers certain advantages, it also carries inherent risks and challenges. The level of foreign exchange reserves is influenced by the country's exports and imports trade activity, as well as capital flows. Therefore, the government must manage these factors effectively to ensure the stability and growth of the economy. This requires a comprehensive understanding of the intricacies of the global economy and careful planning to maintain a healthy balance between international trade and financial stability (Ghandi, 2006). Meanwhile, capital flows can manifest in various forms, such as foreign aid, investment, as well as debt.

### **2.2.5. Economic Growth**

Economic growth constitutes a vital measure for assessing the economic progress of a country. It is portrayed as a long-term process of augmenting per capita output and encompasses the dynamic aspect of how an economy is evolving. A country's economy is considered to be growing when its output per capita increases over a prolonged period. The definition of economic growth encompasses three main components. There are three component factors associated with economic development. Firstly, it involves persistent output expansion, representing economic growth. Secondly, it encompasses sustainable advancements in science and technology, wherein the government plays a crucial role in investing in education and harnessing the potential for growth within technological innovations. The third component relates to institutional adjustments, attitudes, and ideologies.

The achievement of economic growth can only be realized through an increase in aggregate output or GDP each year. Therefore, from a macroeconomic perspective, economic growth entails the addition of GDP, which translates to an addition of national income. (Tambunan, 2001).

### **2.3. Theoretical Thinking**

Economic growth is a crucial factor that impacts various macroeconomic variables. For this process to increase, macroeconomic variables need to remain stable. Indonesia, being a developing country, is progressing in all sectors but faces constraints in financing all sectors of national development. To address this challenge, debt is considered an alternative material that can be used for rational reasons. Additionally, sources of funds for development can come from either foreign or domestic revenues. Foreign debt helps in terms of trade and enhances cooperation between countries in various sectors. Moreover, government debt to foreign countries can stimulate the domestic economy, leading to a significant impact on economic growth. By increasing output and income, foreign funds can also trigger an increase in economic resources and encourage growth in Indonesia.

Foreign investment is another means of transferring factors from developed to developing countries. It can expedite the General Purpose Technology (GPT) process and introduce advanced science and technology that may not be available in developing nations. In the aftermath of various global financial crises, foreign investment is urgently needed to develop trade and foreign exchange markets for stable economic growth. Furthermore, this form of investment is quite attractive to the public due to its rapid price movements and higher rate of return. Exports also play a critical role in a country's balance of payments and job creation. In Indonesia, the role of exports in the economy is also significant and the value has been increasing over time. Exports, in general, entail the transportation of goods or commodities from one country to another. The advantages of this practice include broadening the market for Indonesian products, enhancing the country's foreign exchange reserves, as well as generating more employment opportunities. There are two types of exports, namely direct and indirect exports.

The link between exports and foreign exchange reserves is intrinsically linked since a country earns foreign currency from its export activity, which in turn contributes to the state's income. However, when there is a drop in the level of exports, it leads to a decline in reserves of foreign exchange held. Bank Indonesia records foreign exchange reserves as the financing source for foreign trade in its balance of payments. To manage these reserves, Bank Indonesia has the authority to conduct various foreign exchange transactions and obtain loans.

Several factors, including exports, imports, and the exchange rate of the domestic currency, the rupiah influence the level of foreign exchange reserves. As a consequence of the economic crisis, there was a decline in foreign exchange reserves owing to a reduction in the volume of foreign exchange obtained from exports. Consequently, it is crucial to boost the factors that impact Indonesia's foreign exchange reserves, including exports, imports, and the rupiah's exchange rate, to safeguard these reserves.

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## III. Study methods

### 3.1. Types and Sources of Data

This study relies on the utilization of secondary data, specifically time series data collected over a specific time frame and arranged in chronological order. For this study, quarterly data is required for economic growth, foreign debt, foreign investment, exports, and foreign exchange reserves from the first to the fourth quarter of 2008 to 2018. The sources of this data are from reliable institutions, such as the Central Bank of Indonesia, BPS, Indonesian Economic and Financial Statistics (SEKI), as well as the Ministry of Trade.

### 3.2. Study Variable

The variables analyzed in this study are foreign debt, foreign investment, exports, as well as foreign exchange reserves (independent variables), and economic growth (dependent variable).

### 3.3. Study Methods

Both generalized autoregressive conditional heteroscedasticity (GARCH) as well as autoregressive conditional heteroscedasticity (ARCH) are employed. During this time, the analysis program Eviews 6 was used to carry out the hypothesis testing. Multiple regression models should be utilized as follows to demonstrate how ARCH and GARCH models are created as follows (Widarjono, 2013):

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \dots + \beta_n X_{nt} + e_t$$

Information:

$Y_t$  = dependent variable

$X_{1t}$  = Independent variable

$X_{2t}$  = Independent variable

$X_{nt}$  = Independent variable

$\beta_0$  = Intercept (constant)

$\beta_1, \beta_2, \beta_n$  = Regression coefficient

$e$  = Standard error

ARCH-GARCH variety equation is as follows:

$$\sigma^2_t = \alpha_0 + \beta_1 \sigma^2_{t-1} + \beta_2 \sigma^2_{t-2} + \lambda_1 \varepsilon^2_{t-1} + \lambda_2 \varepsilon^2_{t-2}$$

Information:

$\sigma^2_t$  = Current year error/residual

$\alpha_0$  = Intercept (Constant)

$\beta, \lambda$  = regression coefficient

$\sigma^2_{t-1}$  = Error/residual a year ago

$\sigma^2_{t-2}$  = Error/residual two years ago

$\varepsilon^2_{t-1}$  = The variance of error/residual a year ago

$\varepsilon^2_{t-2}$  = The variance of error/residual two years ago

## IV. Study Results and Discussion

### 4.1. Data Analysis

In this secondary data analysis, the regression model used independent variables such as foreign debt, foreign investment, exports, and foreign exchange reserves. Meanwhile, the dependent variable was economic growth. Hypothesis testing was performed using the ARCH-GARCH method and a GARCH (2.2) model, with the assistance of Eviews 6 software. The analysis resulted in the following GARCH (2.2) equation:

$$\begin{aligned} \text{Economic Growth} = & -3.366606 - 0.325245 \text{ Foreign Debt} + 0.077369 \text{ Foreign Investment} + 0.278381 \text{ Exports} \\ & + 0.107504 \text{ Exchange Reserves} + 0.626515 \text{ AR (1)} + e \\ & (-2.815032) *** \quad (2.201086)** \quad (2.492088)** \quad (1.838912)** \quad (0.301429) \quad (3.603176) *** \end{aligned}$$

Information:

(\*\*\*) Significant at  $\alpha = 1$  percent

(\*\*) Significant at  $\alpha = 5$  percent

(\*) Significant at  $\alpha = 10$  percent

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### 4.1.1. Classic Assumption Test

A good regression model produces linear unbiased or (Best Linear Un Estimator/BLUE). This condition occurs when several classical assumptions are met. The following are the classical assumptions used in this study:

#### a. Normality Test

The Jarque-Bera test checks whether the residuals are normally distributed or not. If the Jarque-Bera statistic is below 0.05, it suggests that the residuals are not distributed normally. According to the table, the Jarque-Bera statistical value in this study is 2.167920, with a probability of 0.338253. This result indicates that the residuals in the GARCH (2.2) model follow a normal distribution.

#### b. Heteroscedasticity Test

The heteroscedasticity in a regression model can be identified through several indicators, such as an increase in variance, biased estimator coefficients, and strong regression coefficient significance tests. In the current study, the results are presented in the table above, where the Chi-Square value is reported to be 0.7852 with a corresponding probability of 0.7913 ( $\alpha = 0.05$ ). It is noteworthy that this value is statistically insignificant, where the model is not affected by heteroscedasticity. Therefore, it can be said that the regression model is reliable and does not deviate from the homoscedasticity assumption.

#### c. Multicollinearity Test

Based on the multicollinearity test in the table above, the matrix value between each independent variable is known to be  $< 0.9$ . In conclusion, there is no correlation or not affecting each other.

#### d. Autocorrelation Test

The table above presents the Durbin-Watson statistic value obtained from the GARCH (2.2) model estimation results. This value is an important indicator used to evaluate the presence of autocorrelation in the model. In this case, the Durbin-Watson statistic value is reported to be 1.928623. To determine the presence of autocorrelation, this value must be tested against the specified criteria. Specifically, when the value of "d" falls between  $d_U$  and  $4 - d_U$ , the model has no positive or negative autocorrelation.

The results of the Durbin-Watson statistic with the number of observations (n) of 84 and the number of independent variables (k) of 4 are presented in Figure 1 below, then the value of  $d_L = 1.3263$ ,  $d_U = 1.7200$ , with  $4 - d_U = 2.2800$ ,  $4 - d_L = 2.6737$ , and Durbin-Watson 1.928623 statistic. Therefore, the test criteria are  $d_U < d < 4 - d_U$  or  $1.7200 < 1.928623 < 2.2800$ . This indicates that there is no presence of positive or negative autocorrelation in the GARCH (2.2) estimation model.

#### e. Statistic Test

To assess the effectiveness of the GARCH (2.2) model, various measures such as the F-test, t-test, and coefficient of determination can be utilized.

#### f. F-statistical Test Results

In GARCH (2.2) model, the F-count is  $6.945425 > F$ -table which is 2.61 at  $\alpha = 0.05$ . Hence, the conclusion is that independent variables such as foreign debt, foreign investment, exports, and foreign exchange reserves significantly impact the dependent variable, which is inflation.

#### g. Result of the t-statistic Test

The table above indicates that the variables foreign debt, foreign investment, and exports have t-statistics with probabilities less than the alpha value of 0.05, implying a significant and positive effect on economic growth. However, the variable for foreign exchange reserves has a t-statistic probability greater than 0.05, indicating a significant and negative effect on economic growth.

#### h. Coefficient of Determination

Based on the results of GARCH regression model (2.2), the  $R^2$  value is 0.6749 or 67.49%, indicating a strong or close relationship. The 67.49% of the variations in the ups and downs of economic growth during this study period can be explained by the value of debt, abroad, foreign investment, exports, as well as foreign exchange reserves. However, it should be noted that 32.51% of the variance in economic growth is still unexplained and may be attributed to other factors not included in the model.

### 4.2. Discussion of Study Results

#### 4.2.1. The Effect of Foreign Debt on Economic Growth in Indonesia

The analysis carried out using the GARCH (2.2) model indicates that the variable of foreign debt has a positive and significant impact on the economic growth variable in Indonesia. This conclusion is backed by the coefficient value of 0.325245, with a probability of 0.0297 at  $\alpha = 5\%$ , indicates the strength of the relationship. Therefore, a unit increase in foreign debt will lead to a

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0.325245% decrease in economic growth. These results support the notion that foreign debt plays a crucial role in promoting economic growth. An increase in foreign debt, accompanied by a corresponding rise in GDP, can contribute positively to economic growth. Nevertheless, it is essential to remark that when foreign debt increases without a commensurate increase in nominal GDP, it may lead to a negative change in the long term. This is because the variable serves as an alternative financing source required for economic development of a country.

This study is in line with the Keynesian theory, where the government budget deficit covered by foreign debt can increase income and welfare. This results in relatively lighter tax burdens in the present, which in turn can lead to growth in disposable income. The policy of closing the budget deficit to increase growth is stimulated by increased national income. The results are in line with the study of (Rahman, Musadieg, & Sulasmiyati, 2017), (Rudi, 2016) and (Putra & Sulasmiyanti, 2018) that there is a positive and significant relationship between foreign debt and economic growth.

### **4.2.2. The Effect of Foreign Investment on Economic Growth in Indonesia**

The application of GARCH (2.2) to estimate the impact of foreign investment on economic growth reveals a significant positive impact. Specifically, the coefficient value of 0.077369 with a probability of 0.0127 at  $\alpha = 5\%$  signifies that an increase in foreign investment by 1 unit causes a 0.077369% rise in foreign investment.

These results suggest that foreign investment variables substantially impact economic growth. Therefore, the increase in foreign investment directly corresponds to growth of GDP. It is essential to note that the role of foreign investment is paramount in fostering economic growth and promoting domestic production. Therefore, the country can maintain its economic competitiveness while gaining the trust of investors to invest in Indonesia.

This study aligns with the Harrod-Domar theory, where investment is a vital component in economic growth process. FDI plays a pivotal role in generating income and increasing the economy's production capacity by increasing the capital stock. Therefore, an investment must exist to maintain equilibrium, as an imbalance can cause per capita income to decrease, given an increasing population. The results are in line with the study of (Rudi, 2016) and (Putra & Sulasmiyanti, 2018), which found that foreign investment has a positive and significant impact on economic growth.

### **4.2.3. The Influence of Exports on Economic Growth in Indonesia**

Based on the estimation using GARCH (2.2), it can be deduced that exports significantly and positively impact the economic growth variable. The coefficient value of 0.278381 with a probability of 0.0459 at  $\alpha = 5\%$  suggests that an increase in exports by 1 unit, results in a 0.278381% increase in exports.

The results suggest that the exports variable significantly and positively influences economic growth. An increase in the level of exports leads to a corresponding increase in economic growth, while a decrease leads to a decline. Additionally, increased exports translate to higher income for the state since the variable exceeds imports.

This study aligns with the theory of comparative advantage, where exports increase the demand for domestic goods and services, leading to increased production. Consequently, the available employment increases, leading to higher output in the form of goods and services and causing a country's economic growth to increase. Additionally, specialized production of goods or services with high productivity and efficiency generates income, further supporting the country's economic growth.

The findings suggest that the promotion of exports is essential in driving Indonesia's economic growth, and a sustained effort toward achieving exports growth can benefit the country's economy. The results are in line with the study (Rudi, 2016) and (Putra & Sulasmiyanti, 2018) that exports positively and significantly influence Indonesia's economic growth.

### **4.2.4. The Effect of Foreign Exchange Reserves on Economic Growth in Indonesia**

Using the GARCH (2.2) model to estimate the variable of foreign exchange reserves, it can be inferred that the variable has a significant and negative impact on the variable of economic growth. This conclusion is backed by a coefficient value of 0.107504, with the probability of 0.0531 at  $\alpha = 5\%$ . Therefore, an increase in exports by one unit can result in a 0.107504% increase in exports. Conversely, a decrease in foreign exchange reserves can lead to a decline in GDP in Indonesia.

This study aligns with the mercantilist theory, where governments should promote exports and limit imports. The theory recognizes that not all countries can simultaneously have a surplus in exports. The decline in foreign exchange reserves can be attributed to the payment of external debt by the government, as well as a persistent deficit in the trade balance. Moreover, the Central Bank of Indonesia's intervention in the money market to counter the weakening of the rupiah has contributed to the decline in foreign exchange reserves. The sluggish pace of exports in comparison to heavy imports has also played a role in this trend. The results are in line with the study (Sayoga & Tan, 2017) that foreign exchange reserves significantly and negatively impact economic growth.

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## V. CONCLUSIONS AND RECOMMENDATIONS

### 5.1. Conclusion

The previous chapter's results and discussion lead to the following conclusions:

The coefficient of determination ( $R^2$ ) shows that the variables of foreign debt, foreign investment, exports, as well as foreign exchange reserves contributed 67.49%, where variations in economic growth can be explained by foreign debt, foreign investment, exports, as well as foreign exchange reserves or signify a solid relationship to economic growth.

The residual amount of 32.51% suggests that other factors outside the scope of this model might contribute to economic growth in Indonesia.

Based on the examination results obtained from the GARCH (2.2) model, it can be deduced that the variables of foreign debt, foreign investment, exports, as well as foreign exchange reserves significantly impact the variable of economic growth in Indonesia at  $\alpha = 0.05$ . Additionally, the coefficient value of 6.645675 and a probability of 0.000018 further support this conclusion.

Foreign debt, investment, and exports variables partially have a positive and significant impact on economic growth, while foreign exchange reserves variable partially has a negative and significant impact.

### 5.2. Recommendations

Drawing on the results of the discussion and conclusions, the following recommendations are proposed:

As citizens of Indonesia, it is important to have a good understanding of the country's economic conditions. One way to boost the productivity of the domestic economy and promote growth is by reducing the consumption of foreign products and increasing the usage of domestic products.

The government can also play a pivotal role in driving economic growth by reducing foreign debt and redirecting resources toward investment that facilitates economic development. This investment can stimulate economic growth and provide a stable foundation for the country's future economic development.

For future studies, it is recommended to extend the observation period and incorporate additional domestic and foreign macroeconomic variables impacting economic growth in Indonesia. This provides a more comprehensive understanding of factors influencing economic growth and may yield valuable insights for policymakers and academics.

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