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## Analyzing the Factors Causing Indonesia's Fiscal Deficit

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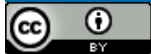
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### ABSTRACT

The objective of this study is to examine the various factors that have influenced the budget deficit in Indonesia over the period between 2000 and 2023. The factors examined include imports, exports, inflation, and the exchange rate. The methodology employed is multiple regression analysis with an ordinary least squares (OLS) approach, based on time series data published by the Ministry of Finance, the Central Bureau of Statistics, and the World Bank. The findings indicate that exports, imports, and exchange rates exert a significant influence on the budget deficit, whereas inflation demonstrates no significant impact. By elucidating these factors, the government can undertake strategic measures to augment state revenue and manage expenditure in a more efficacious manner, which in turn can facilitate sustainable economic growth

**INTRODUCTION**

Budget deficits have constituted a persistent economic challenge for Indonesia in recent years. This problem is precipitated by a number of factors, including the necessity for substantial investments in infrastructure development, expenditure on social programs, and a deficiency in the efficiency of public budget management. As a developing country with a dynamic economy, Indonesia frequently encounters difficulties in maintaining a balanced budget. Budget deficits, defined as a situation in which government spending exceeds revenue, are a complex issue with multiple causes.

As posited by Chaudhary & Abe (1999), substantial budget deficits can precipitate a host of adverse economic consequences, including decelerated growth, elevated inflation, diminished private sector investment, and deficits in the current account balance. Furthermore, high budget deficits can also be attributed to weak institutional quality, which results in the ineffective management of public resources (Schwartz et al., 2020). In general, both developed and developing countries often rely on deficit financing, given the difficulties they face in maximizing the utilization of local assets and expanding the limited tax base (Tanzi, 1982).

The factors contributing to budget deficits in Indonesia are numerous and intricate. The principal causes include a decline in export commodity prices, weak currency exchange rates, inflation, and rising import prices. As a nation whose economy is reliant on the export of commodities such as oil, gas, and palm oil, Indonesia is significantly

impacted by fluctuations in global commodity prices. A decline in commodity prices results in a reduction in export revenue, which subsequently affects the budget deficit. A weak rupiah against the US dollar leads to an increase in import costs for goods and services, which in turn results in an expansion of government spending on imports and an increase in production costs for local producers who depend on imported raw materials, thus worsening the deficit. High inflation can diminish the purchasing power of individuals and reduce government tax revenues. Furthermore, it can increase government borrowing costs, as investors seek higher yields to offset inflation risks. Furthermore, the rising cost of imports, particularly for essential commodities such as oil and foodstuffs, can contribute to an expansion of the budget deficit, as the government is compelled to allocate greater resources to meet domestic demand.

A sustained budget deficit can have a long-term negative impact on the economy. An increase in government debt can result in a deterioration of the country's credit rating, leading to higher borrowing costs. Furthermore, substantial budget deficits can constrain the government's capacity to invest in infrastructure and social services, which are crucial for sustained economic growth. From 2000 to 2023, Indonesia experienced fluctuations in its budget deficit, which was influenced by a range of economic factors at the global and domestic levels. A graphical representation of the trend in Indonesia's budget deficit is provided in Figure 1.

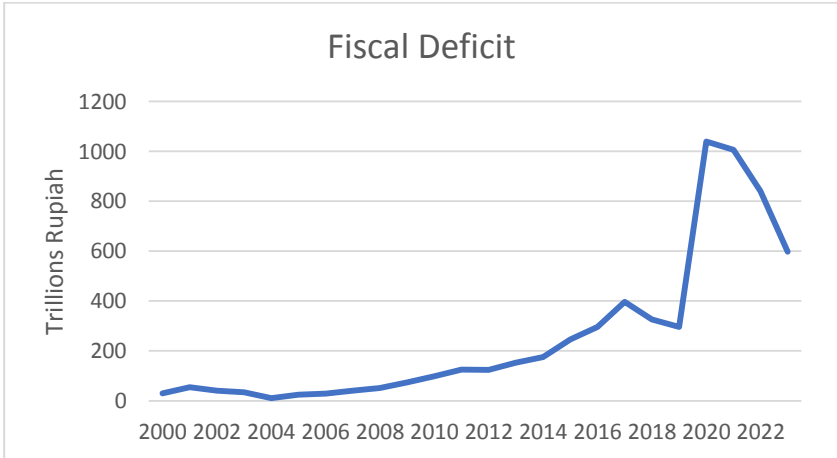


Figure 1. The Evolution of Indonesia’s Defecit, 2000-2023

At the advent of the millennium, Indonesia was still in the process of recuperating from the Asian financial crisis that had occurred in the late 1990s, which resulted in an expansion of the budget deficit. However, in conjunction with economic reforms and the implementation of more stringent fiscal policies, the budget deficit began to demonstrate a downward trajectory. In 2020, Indonesia experienced a considerable budget deficit, reaching IDR 1039.31 trillion. This deficit saw a sharp increase from the previous year due to the direct impact of the global economic downturn caused by the spread of the SARS-CoV-2 virus. This large deficit highlights the challenges the government faces in balancing the urgent need to respond to the pandemic with maintaining long-term fiscal stability. Furthermore, this situation emphasizes the importance of structural reforms and diversification of state revenues to strengthen the economy's resilience to future external shocks.

In 2023, the budget deficit reached IDR 598.15 trillion, representing a decline from the previous year. This outcome reflects the government's commitment to maintaining fiscal balance and prudent debt management. During this period, the Indonesian government pursued a range of strategies to enhance state revenues, including tax reform and the expansion of non-tax state revenues. These initiatives, coupled with effective expenditure management, contributed to the reduction in the budget deficit.

In light of the aforementioned background, this study will examine the underlying factors that have contributed to budget deficits in Indonesia over the period spanning 2000 to 2023. This study aims to provide a comprehensive analysis of the underlying causes of budget deficits in Indonesia. It seeks to offer insights that can inform the formulation of effective strategies for the management of state finances. By elucidating the principal causes of budget deficits, the government is better positioned to take proactive measures to prevent sustained deficits and ensure the long-term fiscal sustainability of the country

## METHODS

This research will employ a quantitative methodology, utilizing multiple regression analysis techniques. The principal objective of this study is to identify and analyze the factors that exert a significant influence on the budget deficit in Indonesia. The data to be utilized is time series data spanning the period from 2000 to 2023, due to the constraints on the completeness of the data employed. The principal data sources are publications from the Ministry of Finance, the Central Bureau of Statistics, and the World Bank. The data set will include a number of variables, including budget deficit value, export value, import value, inflation, and exchange rate. The dependent variable in this study is the budget deficit of Indonesia. The independent variables to be analyzed include export value, import value, inflation, and exchange rate. This study will test the hypothesis that these variables have a significant influence on the budget deficit. Data analysis will be carried out using E-views 12 software to estimate the parameters of the regression model. Statistical tests such as the t-test, F-test, and coefficient of determination (R-square) will be used to assess the significance of the model and independent variables.

The following is the equation form of the model utilized in this study:

$$\text{Deficit} = \beta_0 + \beta_1^{\text{Ex}} + \beta_2 \text{Import}_t + \beta_3 \text{INF}_t + \beta_4 \text{KURS}_t + e$$

Description:

Deficit	= Budget Deficit (trillion rupiah)
Exports	= Exports (billion US\$)
Import	= Imports (billion US\$)
INF	= Inflation (percent)
KURS	= Rupiah exchange rate (thousand rupiah)
$\beta_{0,1,2,3,4}$	= Coefficient
e	

## RESULTS AND DISCUSSION

### Regression Analysis Results

Table 1. Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-59.42560	8.382484	-7.089259	0.0000
EKSPOR	7.738977	2.264170	3.418019	0.0029
IMPOR	-6.021242	2.015982	-2.986753	0.0076
INFLASI	-0.028012	0.032663	-0.857608	0.4018
NILAI_TUKAR	2.142395	0.801394	2.673336	0.0150
R-squared	0.907587	Mean dependent var		4.816285
Adjusted R-squared	0.888131	S.D. dependent var		1.288609
S.E. of regression	0.430998	Akaike info criterion		1.337625
Sum squared resid	3.529425	Schwarz criterion		1.583053
Log likelihood	-11.05150	Hannan-Quinn criter.		1.402737
F-statistic	46.64962	Durbin-Watson stat		1.239217
Prob(F-statistic)	0.000000			

Source: Data Processed (2023)

### Coefficient of Determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) is a statistical measure that indicates the extent to which the data in a regression model fits the observed data. The  $R^2$  value ranges from 0 to 1, with a value close to 1 indicating a high degree of predictive accuracy. As illustrated in Table 1, an  $R^2$  value of 0.90 signifies that 90% of the budget deficit variation can be attributed to the influence of exports, imports, inflation, and the exchange rate. The remaining 10% is attributable to other factors not included in this study.

### Simultaneous Statistical Test (F-Test)

The simultaneous F-test is an essential and widely utilized method of hypothesis testing in research. This test enables researchers to ascertain whether multiple independent variables exert a significant influence on the dependent variable simultaneously. In Table 1, the F-statistic value is 46.64962, with a prob (F-statistic) value of 0.0000. Given that the prob (F-statistic) value is less than 0.05, this indicates that the independent variables exert a significant influence on the dependent variable in the regression model under examination.

### Partial Statistical Test (T-Test)

The t-test, also referred to as the partial statistical test, is a statistical methodology employed to ascertain whether there is a notable disparity between the means of two independent groups. In the context of linear regression, the t-test is employed to evaluate the statistical significance of the effect of each independent variable on the dependent variable, while controlling for the influence of other variables. The decision to accept or reject the null hypothesis is based on the probability value generated from the t-test. If the probability value is less than the set significance level (typically 0.05), the null hypothesis is rejected, indicating a significant effect. Conversely, if the p-value is greater, the null hypothesis is accepted, indicating no significant effect.

#### Export

The results of the test (Table 1) indicate that the export variable exerts a partial positive and significant effect on the budget deficit, with a coefficient value of 7.7389. This indicates that an increase of one US dollar in exports will result in a corresponding increase of 7.7389 rupiah in the budget deficit.

#### Import

The test results (Table 1) indicate that the import variable has a negative and significant effect

on the budget deficit, with a coefficient value of -6.02. This indicates that an increase of 1 US dollar in imports will result in a reduction of the budget deficit by 6.02 rupiah.

### **Inflation**

The test results (Table 1) indicate that the inflation variable has a negative but insignificant effect on the budget deficit, with a coefficient value of -0.02. This indicates that an increase of 1 percent in inflation will result in a reduction of 0.02 rupiah in the budget deficit.

### **Exchange Rate**

The results of the test (Table 1) indicate that the exchange rate variable has a positive and significant effect on the budget deficit, with a coefficient value of 2.14. This implies that an increase of 1 rupiah in the exchange rate will result in an increase of 2.14 rupiah in the budget deficit. The results demonstrated that exports exert a considerable influence on the budget deficit in Indonesia, corroborating the findings of prior research (Ventika & Setyowati, 2021). Exports play a pivotal role in Indonesia's economy, as they contribute to state revenues derived from the sale of products in international markets. The export products of Indonesia include commodities such as oil, gas, agricultural products, and manufactured goods. Export performance affects the country's foreign exchange earnings, which in turn can impact the budget deficit. An increase in exports generally indicates strong economic growth, which can increase state revenue through taxes and reduce the need for debt. However, in this study, an increase in exports does not necessarily result in a decrease in the budget deficit. This is due to the fact that increased government spending to support exports, such as subsidies or investment in infrastructure, can actually increase the budget deficit.

Similarly, imports exert a considerable influence on the budget deficit. This finding aligns with the results of prior research conducted by Afandi (2016), which indicates that imports exert a negative and statistically significant impact on the budget deficit over the long term. This indicates that an expansion in imports is associated with an

increase in the budget deficit. This occurs because an increase in imports can diminish revenue from tariffs and import taxes, which are sources of revenue for the government. Furthermore, if imports consist of raw materials or capital goods utilized for domestic production, this may enhance the country's productivity and revenue in the long run. However, in the short run, the impact may be insufficient to offset the high cost of imports. The exchange rate also has a significant impact on the budget deficit. This is in accordance with the research conducted by Afandi (2016), Astuti (2021), Epaphra (2017), and Hadaria (2022).

The currency exchange rate of a country can affect the budget deficit through a number of different mechanisms. A depreciation in the exchange rate may result in elevated import prices for goods and services. Consequently, the government may be compelled to allocate a greater proportion of its resources towards the payment of imports, which may serve to exacerbate the budget deficit. Conversely, an appreciation of the exchange rate may have a beneficial impact on the budget deficit. An increase in the exchange rate may render imports more affordable, thereby enabling the government to allocate a reduced proportion of its budget to the importation of goods and services. In Indonesia, fluctuations in the rupiah-to-dollar exchange rate frequently represent a significant factor in assessing the budget deficit. A depreciation of the rupiah against the US dollar may result in increased pressure on the government to increase state spending in order to cover a potential budget deficit resulting from rising import prices. Conversely, if the rupiah appreciates in value relative to the US dollar, this may afford the government some flexibility in managing the budget deficit. An increase in the purchasing power of the rupiah can assist in reducing the financial burden associated with import payments and in controlling the budget deficit.

The Farmer Exchange Rate has no effect on income distribution inequality in the provinces of Sumatra Island between 2013 and 2022 (Yahdiyani et al., 2024). This indicates that the

exchange rate is a factor in the budget deficit but not the agricultural exchange rate. In the other hands, with regard to fertilizer prices, the results indicate a positive and significant impact on the farmer exchange rate. This implies that an increase in fertilizer prices leads to a corresponding increase in the farmer exchange rate (Cahyani et al., 2024). This indicates that the exchange rate is one of the factors in the budget deficit.

## CONCLUSION

The research on the factors causing budget deficits in Indonesia has revealed some significant economic dynamics. Based on the analysis conducted, there are several main factors that significantly affect the condition of the budget deficit in Indonesia, namely exports, imports, and the exchange rate. By understanding these factors, policymakers can design more effective strategies to manage the budget deficit and promote sustainable economic growth. This research provides valuable insights for the government and financial institutions in evaluating and adjusting fiscal and monetary policies in Indonesia.

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