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Determinants of the Budget Deficit in Indonesia for the Period 1996-2021

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ABSTRACT

The main purpose of this study is to determine the effect of each dependent variable, namly the budget deficit. This study uses quantitative secondary data in the 1996-2021 time series obtained from the Central Statistics Agency and Bank Indonesia. The analytical tool used is Ordinary Least Square (OLS). The results of the study found that the exchange rate had an effect on the budget deficit in Indonesia during the period 1996-2021. While inflation and SBI interest rates have no effect on the budget deficit in Indonesia during the 1996-2021 periode.

Keywoards: Budget Deficit, Inflation, Interest Rates SBI, Exchange Rate.

INTRODUCTION

All governments, including those in emerging nations like Indonesia, frequently deal with budget shortfalls in a sustainable manner. When the government increases government spending while improving public services for its citizens through increased economic growth (government expenditure). Since the APBN budget still used the model T-Account, sometimes known as the balanced budget model, the first signs of a budget deficit have started to appear in Indonesia. The Model T-Account method of creating a state budget involves adjusting the revenue side to the spending side in order to achieve parity between revenue and expenses. However, the balanced budget model (T-Account) consistently has a deficit that must be filled by loans from outside and revenue from development. Despite the fact that these loans constitute costs and debts that must be repaid later. Finally, because it goes against the idea of a balanced budget itself, the implementation of a balanced budget policy is questioned and criticized. The deficit is filled by domestic tax collections and development income, not by taking out foreign loans, in order to establish a balanced budget. (Defarhami & Zulkifli, 2017).

When the economy is in a recession, a budget deficit is a strategy employed to cause expenditures to exceed state receipts in an effort to stimulate the economy. First off, the conventional deficit is determined by subtracting entire costs from total revenue, including grants. Second, the monetary deficit is determined by subtracting total spending from total income. Third, rather than being computed in nominal terms, the operational deficit is a financial shortfall that is measured in real value. The main deficit, or gap between spending and total revenue, is the final definition. (Handayani & Soebagiyo, 2022).

Soebagyo asserts that Indonesia's fiscal deficit problem dates back to the New Order administration. Due to the high inflation rate brought on by the creation of money at the time to finance the budget deficit, the issue of this deficit gained importance. By switching back to a balanced and dynamic budget instead of monetary policy itself, the Indonesian government is trying to reform policies after experiencing budget deficits fueled by money creation. The budget is designed to control the budget's exposure to foreign debt. (Prasetyo & Soebagyo, 2022).

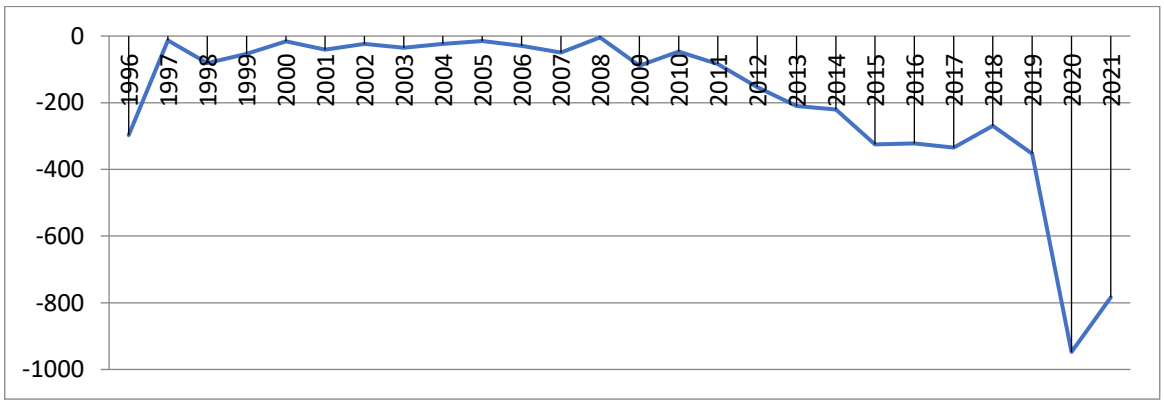

Figure 1. Development of the Budget Deficit in Indonesia during the 1996-2021 Period

***Source**: BPS Indonesia, 1996-2021*

The fiscal deficit in Indonesia between 1996 and 2021 is depicted in Graph 1. 2019 saw the lowest budget deficit in the previous five years, at IDR -269.443 trillion, or 1.7 percent of GDP. The actual budget deficit was 3.72 percent of GDP in 2016, although it fell to 3.79 percent in 2017. In 2019, it dropped by 3.82 percent after rising by 3.93 percent in 2018. Because public spending was increasing while revenue was dropping in Indonesia during the early years of the pandemic, the government implemented a fiscal relaxation program in an effort to boost the country's economy. The initial aim for the APBN (State Income Expenditure Budget) was Rp. 2233.2 trillion for state revenue and IDR 2540.4 trillion for state spending. a 307.2 trillion IDR (1.76 percent of GDP) budget deficit The growing deficit is viewed as being detrimental to the administration of public finances.

Theory and the findings of empirical study differ in their assessments of how the government's budget deficit strategy affects the economy. According to the pump-priming theory, the government's budget deficit was required to boost overall economic activity and prevent a deep recession. It is feasible to generate employment through the government's approach of funding its budget deficit. If jobs can be produced, this will boost aggregate demand and people's purchasing power. (Suryani et al., 2017).

Purnomo (2017) asserts that while Indonesia has a complicated view of inflation, the country's economy is characterized by high interest rates. Restructuring measures at banks and significant deregulation in the real sector will be key factors in interest rate efforts. According to Handayani & Soebagiyo (2022), Indonesia's budget deficit from 1999 to 2020 was impacted by inflation and exchange rates.

The budget deficit is an indication of rapid economic expansion. Budget deficits are used by the majority of nations, with the exception of those with extremely high revenues, like those in the Middle East. The budget deficit must be kept under control in relation to the amount of debt financing that could jeopardize the nation's fiscal balance if growth momentum is to be maintained.

The relationship between economic variables is in fact quite complex, as indicated by the background information and prior research, but the scope of this study is restricted to examining how inflation, SBI interest rates, and exchange rates have affected Indonesia's budget deficit from 1996 to 2021.

METHOD

The population and sample in this study are from Indonesia between the years 1996 and 2021, and data for budget deficits, inflation, SBI interest rates, and exchange rates were taken from publications of the Central Bureau of Statistics.

Ordinary Least Squares (OLS) data regression analysis was the analytical method used in this investigation (Gujarati & Porter, 2015). Modification of Satrianto's (2016) research using the following econometric model:

$$DS_t = \beta_0 + \beta_1 INF_t + \beta_2 SBI_t + \beta_3 KURS_t + \varepsilon_t \quad (1)$$

Keterangan:

DS = Defisit Anggaran (triliun Rupiah)
INF = Inflasi (%)
SBI = Suku Bunga SBI (%)
KURS = Nilai Tukar (Rupiah)

β_0 = Konstanta
$\beta_1..\beta_3$ = Koefisien regresi variabel independen
t = Tahun ke t
u = Unsur kesalahan *(eror term)*

RESULT AND DISCUSSION

Data time series were employed in this study's data. Therefore, as indicated in Table 1, traditional hypothesis testing will also contain descriptive specification tests, shape or linearity, heteroscedasticity tests, autocorrelation tests, residual normality tests, and multicollinearity tests.

Multicollinearity Test

A regression model's independent variables are tested for multicollinearity to see if there is a linear relationship between them. using the VIF test to test for multicollinearity. The model has a multicollinearity issue if the VIF value exceeds 10. There is no multicollinearity issue in the model if VIF 10. Table 1 displays the results of the multicollinearity test.

There is no multicollinearity issue in the model, which is indicated by VIF values of 10 for all variables.

Heteroscedasticity Test

The variance will be examined using White's test. The argument made by H test 0 White is that the estimated model has no variance issues, but the estimated model for HA has a variable variance issue. p-value, probability, or empirical statistical significance 2 White's test > accepted if H0. If the probability, p-value, or empirical statistical significance is 2 uji White, H0 is rejected. Table 1 demonstrates that there is a p-value (p-value), probability, or empirical statistical significance of 2. Until H0 is approved, White's test is 0.8957 (> 0.10). The model's conclusion is that it does not have a heteroscedasticity issue.

Autocorrelation Test

The Breusch Godfrey (BG) test will be used to examine autocorrelation. In the estimation model for H0 from the BG test, there is no autocorrelation issue; the estimation model for HA has autocorrelation. H0 is accepted if the statistic from the "2 BG test" has a p-value (p-value), probability, or empirical statistical significance. If the p-value (p-value), likelihood, or statistical significance 2 BG test is positive, H0 is rejected. It is determined from Table 1 that H0 must be accepted because the p-value (p-value), likelihood, or empirical statistical significance of the 2 BG test is 0.1063 (> 0.10). There is no autocorrelation in the estimated model's conclusion.

Table 1. Econometric Model Estimation Results

$\widehat{DS}_t$ = 35,14096 – 3,705332 INF_t – 0,032472 $KURS_t$ + 15,38099 SBI_t	
(0,5829) (0,0367)** (0,3094)	
R^2 = 0,351499; *DW-stat* = 0,600565; *F-stat* = 3,974805; *Prob.F-stat* = 0,020980	

Diagnostic Test
Multicollinearity
INF: 5,705611; KURS: 1.278696; SBI: 6,226292
Otokorelasi (Breusch-Godfrey)
χ^2 *(5)* = 9,070361; Prob. χ^2 *(5)* = 0,1063
Heteroscedasticity (White)
χ^2 *(3)* = 0,603372; Prob. χ^2 *(3)* = 0,8957

Source: Process Eviews 9 data. **Information**: *Significant at = 0.01; **Significant at = 0.05; *** Significant at = 0.10. Numbers in brackets are empirical probabilities (p value) t-statistics

Model Existence Test

If all independent variables have an equal chance of affecting the dependent variable, the estimated model is present (the estimated model regression coefficient is not simultaneously zero). Utilize the F test to determine whether the estimated model is real.

The calculated model's hypothesis formula is as follows: HA: The regression coefficients are not simultaneously zero or the estimated model exists. H0: (simultaneous regression coefficient is zero or the estimated model does not exist). HA: The computed model is either true or the regression coefficients are not all simultaneously zero. If statistical empirical significance F > huh, H0 will be accepted. If the value of statistical empirical significance F, H0 will be rejected. Table 1.1 demonstrates that H0 is rejected because the value-p (p value), probability, or statistical empirical significance F is worth 0.02098 (0.05).

To sum up, the model exists.

Interpretation of the Coefficient od Determination (R^2)

The estimated model's predictive ability is shown by the coefficient of determination (R2). Table 1.1 shows that the estimation model has a R value2 of 0.351499, indicating that inflation, SBI interest rates, and currency rates can each account for 35.1% of the variation in the budget deficit variable. Variables or other factors not included in the model have an impact on the remaining 64.9% of the data.

Validity test

The effect validity test evaluates the significance of the individual or partial effects of the independent variables. Verify the accuracy of the test's claimed impact. The independent variable I in the estimated model does not have a significant impact according to the H0 t test; however, the independent variable to in the estimated model does. If value-p (p value), likelihood, or statistical empirical significance t > huh, H0 will be approved. If value-p p(value), probability, or statistical empirical significance t, H0 will be rejected. Table 2 displays the outcomes of the influence validity test.

Table 2. Influence Validity Test Results

Var	Sig.t	Criteria	Conclusion
INF	0,5829	> 0,10	Not significant
KURS	0,0367	< 0,05	Significant
SBI	0,3094	> 0,10	Not significant

Source*:* Eviews 9 data processing

Research Discussion

Inflation on the Budget Deficit

According to the study's findings, from 1996 and 2021, the budget deficit was unaffected by inflation. This demonstrates that the budget deficit is unaffected by changes in the rate of inflation. This is because, for the most part, the inflation rate throughout the study year remained within the Bank Indonesia goal range. Data on the inflation target and annual actual inflation are presented to support this claim. From the established inflation objective, inflation can be controlled from 1996 to 2021. The 2018 Central government financial reports states that the government's strategy for reducing inflation is to regulate and maintain pricing components, particularly domestic energy costs, fuel costs, and power rates. The government-regulated prices (managed prices) and the core component of inflation (core inflation) were comparatively maintained from 1996 to 2021.

Additionally, when inflation occurs, it indicates that the inflation is unexpected or merely transitory, and that it will eventually go away on its own. As a result, the economy has not been significantly impacted by inflation. As an illustration, consider the inflationary shock to petrol prices in 2005. When compared to the IDR 495.22 trillion in government revenue from 2005, it increased to IDR 637.99 trillion in 2006. It is clear from this that it had little impact on the economy and did not diminish state income, maintaining the budget imbalance.

According to research by Astuti et al (2018), inflation had no impact on Indonesia's budget deficit between 2002 and 2017. This finding is consistent with the research findings. Inflation had little impact on Indonesia's budget deficit before or after 2000, according to Suryani et al (2017). Damayanti (2022) discovered the same thing, namely that between 2009Q1 and 2021Q4, Indonesia's budget deficit was unaffected by inflation.

Exchange Rate to Budget Deficit

According to the processing outcomes, the budget deficit is significantly and negatively impacted by the exchange rate. In other words, the budget deficit will decrease if the exchange rate rises. The selling price of Indonesian goods sold abroad will become more competitive if the exchange rate declines since the cost of goods sold abroad would decrease, which will support an increase in exports on the other hand, the falling exchange rate increases or makes more expensive domestic prices of imported items, which reduces demand for these imported commodities. The trade surplus will rise as a result of rising exports and falling imports. The country's foreign exchange reserves will rise as a result of the trade surplus, which will boost revenue. The budget deficit will eventually be decreased as income increases.

Indonesia as one of the nations that lends money abroad, we stand to gain if the exchange rate rises annually. This is due to the fact that the loan's value is determined in foreign currency, while the principle installment payment and loan interest are determined in rupiah. The budget will benefit if the value of the rupiah relative to the US dollar rises because the amount paid will also rise, and this is because less money will need to be taken out of it to pay principal installments and loan interest than had been planned, or in other words, less money will need to be paid in interest on foreign debt. Therefore, the state budget deficit will decrease as payments on the foreign debt are reduced.

This is in line with study done by Satrianto (2016), who discovered that the exchange rate had a negative and considerable impact on Indonesia's budget deficit between 2000 and 2014. Ratnah (2015) also discovered that the exchange rate variable has an impact on the budget deficit. According to research done by Epaphra (2016) in Tzania using the VAR-VECM approach, the exchange rate had a negative and significant impact on the budget deficit between 1996 and 2015, with the budget deficit decreasing if the exchange rate climbed.

Interest Rates on the Budget Deficit

Study findings revealed that SBI had no impact on the budget deficit. This is because contracts to buy manufacturing elements lead production costs to typically stay constant, so that when the short-term SBI interest rate rises, it won't negatively impact the company's financial management. This won't have an impact on the choice to invest, since the budget deficit usually persists in the end. Furthermore, provided the government's assumptions used to determine the budget for interest rates are accurate, the amount of Bank Indonesia's interest rate has no impact on the budget deficit. In order to prepare a budget under the assumption that it would be successful, it is necessary to expect an increase in interest rates from the outset.

In essence, the BI interest rate is continually aimed at containing inflation in accordance with the target target. If inflation has changed favorably, this will allow interest rates to drop below the BI rate. This occurred as a result of the bonds' outstanding value being less than their market value. Although the amount of outstanding government securities in Indonesia has expanded year over year, they still outnumber the value of share capitalization. This is further supported by the fact that more people choose to invest in stocks as opposed to purchasing securities. The movement affecting the BI rate, either directly or indirectly, is still not apparent because the outstanding value is so modest.

Research by Ratnah (2015) demonstrates that the interest rate variable, whether directly or indirectly through economic development, has no impact on the budget deficit. Additionally, according to Munawar (2017), interest rates have little impact on budget deficits. Interest rates have little impact on Indonesia's fiscal deficit, according to Putra (2021).

DISCUSSION

Model Terestimasi The ideal estimation outcome was decided to be Ordinary Least Square (OLS). The heteroscedasticity test, the autocorrelation test, and the multicollinearity test are three tests that the classic assumption test demonstrates do not all have problems with the traditional assumptions. The findings of the influence validity test (t test) indicate that the exchange rate is the independent variable that has an impact on Indonesia's budget deficit from 1996 to 2021. The factors of inflation and SBI interest rates, nevertheless, have no impact on Indonesia's budget deficit between 1996 and 2021. The F test findings demonstrate that the model in use is real.

IMPLICATIONS

The rupiah exchange rate is the primary factor in establishing a budget deficit, according to the research findings. It follows that measures to reduce the budget deficit

should concentrate on maintaining the stability of the rupiah exchange rate. The tightening of monetary policy by global central banks will continue and last for a very long time because it is expected that the global economy will continue to fluctuate.

CONCLUSION

Because Indonesia has a budget deficit policy, it must be carefully implemented if it is to be kept in place to promote economic growth, especially when funded by sources that encourage increased investment. Coordination between the monetary and fiscal authorities is required for the budget deficit policy to be implemented successfully and for both policies to be mutually sustainable. Which expenditures are worthwhile and fruitful if carried out must be able to be chosen by the government as the controller of fiscal policy. Therefore, even though the deficit is still within acceptable bounds, it does not continue to grow. In order to make the results of the analysis more consistent with the theory, it is advised that individuals who are interested in conducting future research increase the amount of data used in the study. It is also recommended to add or substitute new variables and research techniques.

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