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# Did Inflation and the Exchange Rate Increase Indonesia's Budget Deficit?

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**ABSTRACT**

This study aims to determine the effect of inflation and exchange rates on the budget deficit in Indonesia. The type of data used in this research is secondary data and is a time series data for 2000-2020. The method of analysis in this study is a linear regression with the Ordinary Least Square (OLS) technique. Based on the analysis results, partial inflation significantly negatively affects Indonesia's budget deficit. In contrast, the exchange rate significantly positively affects Indonesia's budget deficit. Simultaneously inflation and exchange rates significantly affect Indonesia's budget deficit.

**Keywords:** inflation, exchange rate, Indonesia's budget deficit

## INTRODUCTION

The way a government plans its budget is crucial (Potter & Diamond, 1999) in determining the success of a country's development. This issue has become essential as it impacts progress in various areas (Dalevska, 2019), such as the economy, resources, politics, and other aspects of state life (Barasheva, 2020). State development is closely linked to growth rates, making budget planning a key factor in a country's progress (Allen, 2011).

In Indonesia, the State Revenue and Expenditure Budget (APBN) is used to improve people's lives in various ways. This budget covers all revenues and expenses, determining whether there will be a surplus or deficit (Prastyawati & Hasmarini, 2023). A surplus means the government can satisfy the state's needs with state revenues, while a deficit means the state's needs exceed state revenues. The government must seek financing from domestic and foreign sources to carry out development.

The budget deficit is the difference between state revenue and expenditure. It tends to be negative, meaning that state expenditure is greater than revenue, so it becomes one of the fiscal policies for maintaining fiscal sustainability.

Indonesia's dominant budget deficit has increased every year (Table 1). The increasing budget deficit in Indonesia occurred from 2010-2017. The government continues to spend on development despite the 2008 economic crisis. In 2020, the highest budget deficit in the state budget for the last ten years was IDR 947,697.76 billion. It is due to the Covid-19 pandemic, which has impacted health and social affairs, including the economic situation, such as the declining performance of the

APBN, seen from state revenue contracting while spending has increased (Subekan & Iskandar, 2020). The state of the budget deficit, which has increased, will impact debt because the state has not been able to cover state spending, so debt is the main financing made to cover the budget deficit.

**Table 1. Inflation, exchange rate and budget deficit for 2010-2020**

| Year | Inflation (%) | Exchange Rate (IDR/USD) | Budget Deficit (IDR Billion) |
|---|---|---|---|
| 2010 | 6.96 % | 8,991 | 46,845.71 |
| 2011 | 3.79 % | 9,068 | 84,399.04 |
| 2012 | 4.3 % | 9,670 | 153,300.60 |
| 2013 | 8.38 % | 12,189 | 211,672.66 |
| 2014 | 8.36 % | 12,440 | 226,692.04 |
| 2015 | 3.35 % | 13,795 | 298,494.83 |
| 2016 | 3.02 % | 13,436 | 308,340.94 |
| 2017 | 3.61 % | 13,548 | 340,975.90 |
| 2018 | 3.13 % | 14,481 | 269,442.90 |
| 2019 | 2.72 % | 13,901 | 348,653.30 |
| 2020 | 1.68 % | 14,105 | 947,697.76 |

Source: Badan Pusat Statistika, 2021; Bank Indonesia, 2021a, 2021b

Inflation and exchange rates have fluctuated from 2010-2020. In 2020 inflation has decreased by 1.68% compared to the previous year of 2.72% in 2019, which means that economic activity in Indonesia is experiencing a slowdown or the demand for goods and services has decreased so that the business sector is sluggish. As for 2020, the exchange rate has increased by IDR 14,105.01/USD compared to the previous year of IDR 13,901.01/USD in 2019, which means that the value of the rupiah has weakened against the United States dollar because production activities have decreased due to the social restriction policy. So that public consumption also decreases, which results in prices that will also fall and impact every sector that plays a major role in the economy.

## MATERIAL AND METHOD

This study uses time series data from 2000-2020. Furthermore, the data were analyzed using multiple regression analysis with the Ordinary Least Square (OLS) method. The regression model used is as follows:

$$Y = \beta_0 + \beta_1 Inf + \beta_2 Exc + \mu_t$$

Where: $Y$ is budget deficit, $\beta_0$is constant from the regression equation, $\beta_1$ and $\beta_2$ are regression coefficients, $Inf$ is inflation, $Exc$ is exchange rate, and $\mu_t$ is residual variable or prediction error.

## RESULT AND DISCUSSION

### Indonesian inflation, 2000-2020

Inflation in Indonesia experienced significant fluctuations from 2000 to 2020 (**Figure 1**). The most visible condition of the inflation rate was that in 2005 it had increased significantly from the previous year, namely 2000 to 2004, and the inflation rate in 2008 also increased again, seen from the previous year, which had experienced a decline. It is due to the increase in fuel prices and the conditions leading up to celebrating holidays such as Eid Fitr.

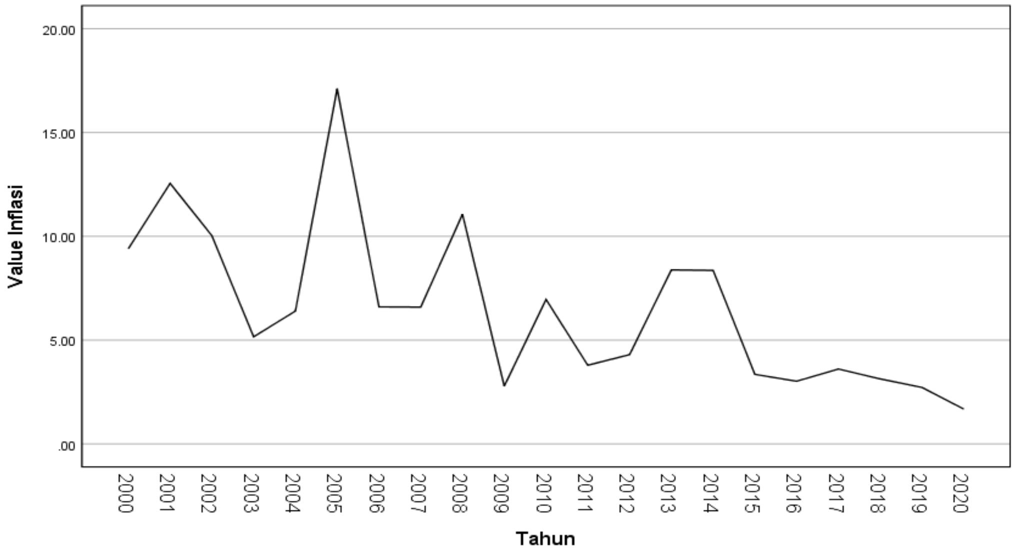


**Figure 1 Indonesian Inflation 2000-2020**
Source: (Bank Indonesia, 2021b)

For the last 21 years, namely, from 2000 to 2020, the inflation rate has contracted the most, namely in 2020; this is due to the weakening of people's purchasing power, especially during holiday celebrations, the imposition of social restrictions on a large scale due to the increasing conditions of the Covid-19 pandemic.

### Indonesian exchange rate, 2000-2020

The IDR exchange rate against the USD in 2008 increased from the previous year (**Figure 2**). It means that the rupiah exchange rate weakened due to the global financial crisis, which resulted in Indonesia's economic growth also slowing down, and the condition of financial markets also gave rise to a negative outlook. Apart from 2008, the condition of the rupiah exchange rate against the USD in 2009-2012 has improved considerably because the fluctuations were not high enough. In 2013, the rupiah exchange rate against the USD weakened again.

It was triggered by inflation that increased compared to the previous year, and economic growth also slowed compared to the previous year, as for the weakening again that occurred in 2020. A wave of capital outflows caused global panic due to the pandemic, weakening the exchange rate.

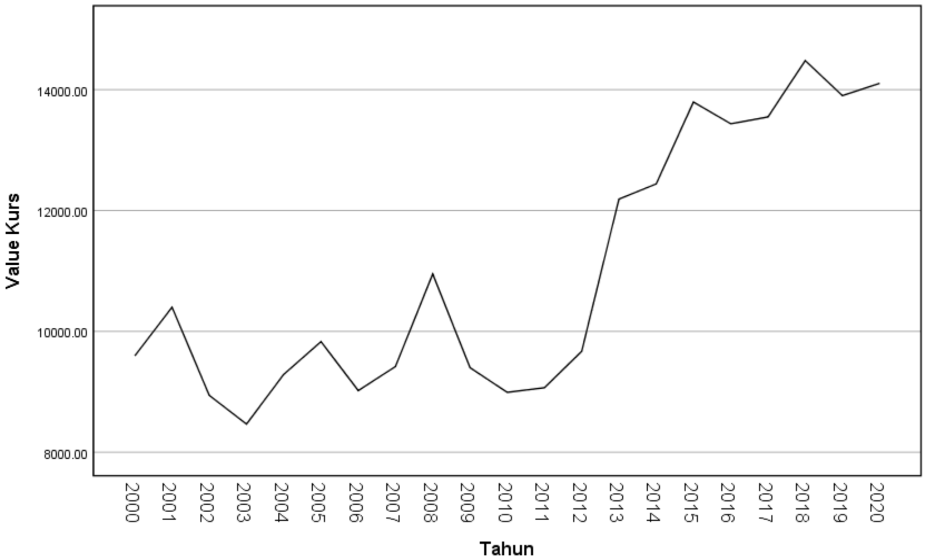


**Figure 2 Indonesian Exchange Rate 2000-2020**
Source: (Badan Pusat Statistika, 2021)

**Indonesian budget defisit, 2000-2020**

The value of the budget deficit in 2000-2007 experienced fluctuations, and in 2008, the number of budget deficits decreased because the realization of state revenues increased and state spending decreased from the draft APBN-P. However, in 2009 the budget deficit increased. As for 21 years, namely 2000-2020, the highest significant budget deficit occurred in 2020 (**Figure 3**).

It is because the realization of state revenue has decreased. The realization of state spending has increased so that the deficit is above 6% of Gross Domestic Product (GDP), which is the first time in Indonesia that it has experienced a deficit of above 3% of GDP because the government is holding back the conditions of society and the economy. Who experienced shock due to the Covid-19 pandemic, so the 2020 budget deficit became a countercyclical instrument, which means an expansive situation when the economy is experiencing a downturn.

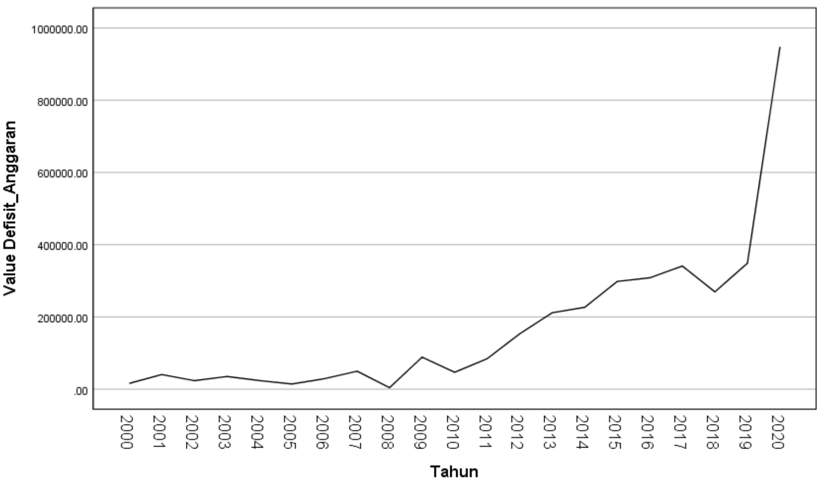


**Figure 3 Indonesian Budget Deficit 2000-2020**
Source: (Bank Indonesia, 2021a)

### The effect of inflation on the budget deficit

Inflation negatively and significantly affects the budget deficit (**Table 2**). The increase in inflation reduced the budget deficit by 1.2%. Empirically, an average increase in inflation of 6.52% will reduce the budget deficit by IDR 169,611.33 billion.

The results of these tests are under the opinion of Keynes' theory when viewed from the side of high public demand and fixed supply and (Prasetya & Setyowati, 2023) finding. However, the (Prastyawati & Hasmarini, 2023) findings were not significant. It results in inflation -the excessive desire of a group of people to take advantage of more available goods and services because the desire to meet needs is very high. Hence, the demand for goods increases while the supply remains constant. Economic activity continues to experience rotation due to high public consumption, and producers receive income through profits and taxes. It can directly increase state revenues that enter the APBN post from taxes. It will further reduce the state budget deficit. On the other hand, the results differ from those of (Arjomand et al., 2016).

**Table 2. Analysis of the effect of inflation and exchange rate on Indonesia's budget deficit**

| Variable | Regression coefficient | Prob. | Tollerance | VIF |
|---|---|---|---|---|
| (Constant) | -18.423 | 0.062 | | |
| Inflation | -1.234 | $0.001^{***}$ | 0.753 | 1.327 |
| Exchange rate | 3.425 | $0.002^{***}$ | 0.753 | 1.327 |
| $F_{stat}$ | | | | 0.000 |
| $R^2$ | | | | 0.763 |
| DW | | | | 1.556 |
| N | | | | 21 |

$^{*}$, $^{**}$, $^{***}$ significant respectively 10%, 5%, and 1%
Source: SPSS 23 output, data processed

### The effect of exchange rate on the budget deficit

Based on empirical data, there is a significant impact on the budget deficit when the exchange rate increases like findings (Prastyawati & Hasmarini, 2023). It was found to be different from the studies conducted by (Prasetya & Setyowati, 2023) and (Rahman B & Khoirunnisa, 2021). The relationship between the exchange rate and budget deficit is represented by a coefficient value 3,425 (**Table 2**). It means that a currency depreciation or an increase in the exchange rate can lead to a budget deficit increase of up to 3.4%. Specifically, an IDR 10,996.81/USD increase in the average exchange rate can result in a budget deficit increase of IDR 169,611.33 billion.

These findings support Kunarjo's belief that foreign loans can create problems for a country if exchange rate fluctuations occur regularly. It is because installment payments and interest are calculated in the borrowing country's currency, while the debt amount is calculated in foreign currency. Therefore, a decrease in the value of the rupiah currency against the dollar can increase the payment of loan principal and loan interest, leading to increased payments from the state budget and ultimately causing an increase in the budget deficit.

### The effect of inflation and exchange rate on the budget deficit

The regression model utilized in this analysis showcases an impressive ability to account for 76% of Indonesia's budget deficit variation. The research period provided evidence of the significant impact of inflation and exchange rates on the country's budget deficit, as demonstrated by the probability value of Fstat in **Table 2**. It is important to note that other variables beyond these two factors can also influence the remaining percentage of the budget deficit.

## CONCLUTIONS

After conducting a regression analysis, it was discovered that inflation has a negative effect on Indonesia's budget deficit, while the exchange rate has a positive effect. Both factors have a simultaneous impact, highlighting the importance of the government's attention to macro issues. Additionally, the country's political stability is crucial in determining the exchange rate and people's purchasing power, making it a problem that must be addressed.

## REFERRENCES

(1). Allen, R. (2011). *Planning and Budgeting in Developing Countries – "Shrinking the P."* https://blog-pfm.imf.org/en/pfmblog/2011/01/planning-and-budgeting-in-developing-countries-shrinking-the-p

(2). Arjomand, M., Emami, K., & Salimi, F. (2016). Growth and Productivity; The Role of Budget Deficit in the MENA Selected Countries. *Procedia Economics and Finance*, *36*, 345–352. https://doi.org/10.1016/S2212-5671(16)30046-6

(3). Badan Pusat Statistika. (2021). *Kurs Tengah Beberapa Mata Uang Asing Terhadap Rupiah di Bank Indonesia dan Harga Emas di Jakarta (Rupiah) 2018-2020*. https://www.bps.go.id/indicator/13/284/1/kurs-tengah-beberapa-mata-uang-asing-terhadap-rupiah-di-bank-indonesia-dan-harga-emas-di-jakarta.html

(4). Bank Indonesia. (2021a). *Pembiayaan Pemerintah 1990-2020.* https://www.bi.go.id/seki/tabel/TABEL4_3.xls

(5). Bank Indonesia. (2021b). *Data Inflasi*. www.bi.go.id/id/statistik/indikator/data-inflasi.aspx

(6). Barasheva, T. (2020). Budget as a tool for managing socio-economic development of the Arctic territories. *IOP Conference Series: Earth and*

*Environmental Science*, *539*(1), 012081. https://doi.org/10.1088/1755-1315/539/1/012081

(7). Dalevska, T. (2019). Financial-Budget And Strategic Planning Of Regional Development On Smart-Specialization Facilities. *World of Finance*, *1*(1(58)), 43–53. https://doi.org/10.35774/sf2019.01.043

(8). Potter, B. H., & Diamond, J. (1999). *Budget Preparation*. Guidelines for Public Expenditure Management. https://www.imf.org/external/pubs/ft/expend/index.htm

(9). Prasetya, G. B., & Setyowati, E. (2023). Determinants of the Budget Deficit in Indonesia for the Period 1996-2021. *Medan International Conference Economics and Business*, 1222–1230. https://proceeding.umsu.ac.id/index.php/Miceb/article/view/226

(10). Prastyawati, O., & Hasmarini, M. I. (2023). Analysis Affecting the Budget Deficit and it's Factors in Indonesia for the Period 1995-2020. *Proceeding Medan International Conference on Economic and Business*, 772–781. https://proceeding.umsu.ac.id/index.php/Miceb/article/view/187

(11). Rahman B., A., & Khoirunnisa, D. F. (2021). The Effect of Exchange Rate Fluctuations on Economic Growth Through the Trade Balance, Inflation and Foreign Debt. *Bulletin of Economic Studies (BEST)*, *1*(2). https://doi.org/10.24252/best.v1i2.21816

(12). Subekan, A., & Iskandar, A. (2020). Pandemi Covid-19 dan Kebijakan Anggaran Defisit: Analisis Konjungtur Ekonomi. *EKONOMIKAWAN: Jurnal Ilmu Ekonomi Dan Studi Pembangunan*, *20*(2), 142–152.