

Determinants of Government Budget Deficits and Their Impact on Indonesian Foreign Debt

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Abstract. To achieve development goals in a country is determined by various factors, namely human resources, natural resources, technology, social culture and economic systems that apply. The role of the government in the development process is needed through monetary policy and fiscal policy through the APBN. A budget policy aimed to boost economic growth, create jobs, provide services to the community and reduce poverty. In general, developing countries such as Indonesia operates a policy of deficit budgets. Then to finance government expenditures in development expenditures, some are obtained by making foreign debt. Some factors that are thought to influence changes in the government budget deficit are the rate of economic growth, inflation and exchange rates. Furthermore, the government budget deficit and other economic variables are differences in loan interest rates, foreign investment and gross domestic savings which are expected to affect the Indonesian government's foreign debt. This study aims to analyze the factors that can affect government budget deficits and other macro variables that have an impact on foreign debt in Indonesia. This research is descriptive and verificative using secondary data sourced from the Central Bureau of Statistics (BPS), Bank of Indonesia (BI) and the International Monetary Fund (IMF) for the period 2000-2017. Descriptive research aims to be able to explain the development of government budget deficits and foreign debt, while verificative research to explain the level of significance of the effects of independent variables on the dependent variable. The research model used is TSLS multiple linear regression with software eviews. The results showed that inflation and the exchange rate of the dollar against the rupiah provide a significant positive effect on the government budget deficit. While economic growth does not have a significant impact on the government budget deficit. Thus the government must try to control the inflation rate and maintain a stable balance of the exchange rate so that the government budget deficit is controlled. As for the implications of the government's budget deficit increased and the difference between lending interest rates in domestic and foreign lending interest rate (US lending interest rates) greater impact significantly to the increase in foreign debt. Foreign direct investment and gross domestic savings do not have a significant impact on Indonesia's foreign debt. Therefore the government strives to carry out its fiscal policies efficiently and effectively and also seeks to control the balance of the stable interest rate on loans, so as to reduce its dependence on foreign debt.

Keyword: 1 Government Budget Deficit · 2 Foreign Debt · 3 Exchange Rates · 4 Lending Interest Rates · 5 Foreign Domestic Investment · 6 Gross Domestic savings.

1. INTRODUCTION

The economic development of a country is greatly influenced by many factors such as human resources, natural resources, technology, social culture and economic systems that apply. To overcome these

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problems the role of government is very necessary to achieve its development goals. In general, developing countries in the world to achieve economic development require monetary policy and fiscal policy. The budget policy is intended to increase economic growth, create jobs, provide services to the community and reduce poverty. In fact, in developing countries, the budget policy is often unbalanced between the government expenditure with the income earned, thus creating a condition of the budget deficit.

Based on BPS and Bank Indonesia data sources, in 2011 Indonesia's budget deficit was 88.6 percent. This condition shows poor state finances. According to Brixi (2002) and Vuyyuri et al (2004), there are several specific factors that cause a budget deficit in a country including economic growth, exchange rates, and inflation. High economic growth shows the economy is going well. Companies are motivated to increase production, increase government revenues through taxes so that investment funding is not too dependent on foreign loans which causes a reduction in the budget deficit. The inflation rate affects the interest rate because inflation expectations are a component of the nominal interest rate. The rising inflation trend has caused Bank Indonesia to increase interest rates, so development will be hampered because product prices have increased so that it forces the government to increase the budget in the APBN which causes the budget deficit to increase. Likewise, the rupiah exchange rate against the US dollar has experienced fluctuations throughout the year and fairly high depreciation. In 2015 the rupiah exchange rate depreciated to 13,795. This has a negative impact on foreign debt. If the rupiah continues to weaken, foreign debt will increase.

Reinforced by the opinion of Widharma, et al. (2001), foreign debt often makes the government complacent so that incomes in the country are less improved. The budget deficit issues that impact on the foreign debt. In general, the impact of debt can be seen in 2 (two) different perspectives, namely the macro side and the public economic side (Quazi, 2005). The macroeconomic point of view of debt gives the main attention of debt to economic growth from the recipient country. In some developing countries, the role of the public sector in planning development projects is getting bigger. Therefore, public expenditure as a development mechanism also increases. Increasing levels of public expenditure are often not able to be offset by revenues, so other funding sources are needed. Foreign debt is alternative financing that is often chosen by developing countries because it is easier and more practical (Martis, 2009).

The debt impact on economic growth leads to two main conclusions. First, foreign debt has a significant effect on economic growth in the country concerned (Hatemi and Irandoust, 2005; Bhavan et al, 2011). Second, foreign debt has a negative effect on economic growth (Burnside and Dolla, 2000; Brautigam and Knack, 2004; Adofu and Abula, 2010). So that in the development of its study the use of debt as a source of financing to achieve economic growth has become something of doubtful effectiveness. The criticism is based on the argument that the foreign debt into many countries more increased the consumption than the increased investment. In the end, the target of increasing growth was not achieved (Weisskopf, 1972; Papanek, 1973)

2. LITERATURE REVIEW

According to Basri (2005), the budget is a list or statement of expected state spending and spending within a certain time period, in one year. Whereas Suparmoko (1986) budget is a detailed list or statement of expected state revenues and expenditures within a certain period of time. The budget deficit is the excess of government spending compared to the income obtained by the government. The budget deficit can be financed by borrowing in the bond market and the accumulation of government debt in the past called the government debt (Menkiew et al). According to Barro (1989) explained that there are six reasons that cause a budget deficit that is accelerating growth through investment, equitable distribution of people's income through subsidies, weakening the exchange rate, spending in the economic crisis, and realization that deviates from the plan and inflation.

The fiscal deficit can occur when the government aims to improve public services to the community in achieving prosperity with the principle of justice. In fulfilling these policies is done by increasing spending (government expenditure) or lowering the tax rate (Fleegler, 2006). To cover the higher spending, financing can be done through four sources, including taking the foreign exchange reserves, do domestic borrowing by sold securities to the public, conduct foreign borrowing, printing money or a mix of all three sources (Fischer and Easterly, 1990).

In the discussion of the budget deficit, there are three main opinions that explain the impact of budget deficits on the economy. Menkiew et al (2008) explain that in view of Ricardian Equivalence, The core of this proposition states that the financing of budget deficits and government debt neutral impact on economic activity (Blancard, 2000). Keynesian groups argue that budget deficits affect the economy. the Keynesian group assumes that economic agents have a short-term view (myopic) relations between generations are not linked, and not all markets are always in the equilibrium position. One imbalance occurs in the labor market, and unemployment is always in the economy.

According to the Keynesians, the budget deficit will increase income and welfare, and consumption in the next turn. The budget deficit is financed by debt, which causes the tax burden on the present relatively becomes lighter and increasing disposable income. The increase in disposable income will increase consumption and overall request. If the economy is not yet in a state full of opportunities, an increased demand side will encourage the production and further increase in national income. In the next period, the increase in national income will stimulate the economy through the Keynesian multiplier effect. Because the budget deficit increases consumption and income levels at once, the level of savings and capital accumulation also increases. According to the Keynesian overall budget deficit in the short term will benefit the economy.

According to Peacock and Wiseman (Basri, 2005), if GDP increases it will have an impact on increasing economic activity, especially in the real sector and the business world in general. Increased economic activity will encourage an increase in government revenues through taxation, as a result of increasing the economy so that business activities increase and ultimately corporate profits increase as well. Increased activity and company profits will certainly increase taxation both from income tax, value, and tax change tax. With the increase in tax revenue is expected to reduce the budget deficit.

The relationship between interest rates and budget deficits can be directly seen through debt financing with the issuance of state securities (SBN), either through state bonds (SUN) or state sharia securities (SBSN), where interest payments and principal are guaranteed by the state in accordance with the period validity. When interest rates rise, the burden of interest and principal payments on state securities (SBN) issued will increase. This will directly increase the budget burden so that it can increase the budget deficit (Lestari, 2011).

Foreign debt is each financing through loans obtained by the government from foreign lenders are bound by an agreement in the form of loans and government securities, which must be paid back with certain requirements (regulations, 2011). Swamy Vighneswara (2015), shows that several variables that can affect foreign debt include the growth of Gross Domestic Product, foreign domestic investment, government spending, inflation, real interest rates and the level of openness of trade. Foreign Debt is basically an alternative that is done for various rational reasons, foreign loans are intended as a complement to the financing of development, in addition to financing sources originating from within the country in the form of foreign trade, tax revenues, and savings both public savings and the private sector (Khairin, 2013).

Theoretically, the problem of foreign debt can be explained through a national income approach. One source of development funding, foreign debt is needed to cover 3 (three) deficits, namely the gap in investment savings, the budget deficit and the current account deficit. According to Tambunan (2011)

high foreign debt in a country is influenced in part by the budget deficit (fiscal) or G-T (fiscal gap), this deficit is often a major cause of rising external debt in many developing countries

3. RESEARCH METHOD

This study will analyze any factors that may affect the government's budget deficit and its impact on the development of Indonesia's foreign debt. Sources of data in this study using secondary data such as time-series data from the years 2000-2017 were sourced from the Central Bureau of Statistics (BPS), Bank of Indonesia (BI), and the International Financial Statistics (IFS). The Data analysis technique used is multiple linear regression with the method Two-Stage Least Square (TSLS) one-directional (recursive).

This method is done through two stages in making the regression. This is because the equation in the linear regression model consists of two the structure of the equation is :

Model 1

$$BD = \alpha_0 + \alpha_1LPE + \alpha_2INF + \alpha_3EXC + \epsilon_t$$

Where:

BD = Government budget deficit; LPE = rate of economic growth; INF = Inflation ; EXC = Exchange rate of rupiah against US dollar; α_0 = constant $\alpha_{1,2,3}$ = regression coefficient ϵ_t = Error

Model 2

$$DEBT = \beta_0 + \beta_1DIR + \beta_2FDI + \beta_3SBD + \beta_4\widehat{BD} + u_t$$

Where:

DEBT = Indonesia's foreign debt; DIR = Difference in interest rates on loans between Indonesia and the United States; FDI = Foreign Domestic Investment; SBD = Gross domestic saving ; \widehat{BD} =

Estimated government budget deficit; β_0 = Constants; $\beta_{1,2,3}$ = Regression coefficient ϵ_t = Error
Based on the description and model above, each research hypothesis can be made respectively as follows:

Model 1

H1: The rate of economic growth, inflation and the exchange rate of the rupiah against the US dollar both simultaneously and partially have a significant effect on the government budget deficit
Model 2

H1: The government's budget deficit, the interest rate differential with the US domestic loans, foreign investment, and gross domestic savings, both simultaneously and partially significant effect on Indonesia's foreign debt.

4. RESULT AND DISCUSSION

The development of the government budget deficit has a tendency to increase over the period 2000-2017, although several times it has experienced a decline in 2002, 2005 and 2009, and has experienced a slight decline in 2013. But overall it can be grouped into two periods, from 2000-2009. Government budget deficit has increased slowly, can be seen in Graph 1 increase slowly. Furthermore, after 2009 until 2017 the government budget deficit experienced a sharp increase.



Graph 1. Development of Government Budget Deficits 2000-2017 (Billion Rupiah)

Indonesia's foreign debt in development also has an increasing tendency during the period 2000-2017, although it has experienced a decline in 2002 and 2005. But overall it can be grouped in two periods, where from 2000 to 2007 showed foreign debt that fluctuated and tended to be constant.



Graph 2. Development of Indonesia's External Debt 2000 - 2017 (Million USD)

The results of the equation in model 1 show domestic factors as well as external factors that can influence the development of the government budget deficit, namely: the rate of economic growth, inflation and the exchange rate of the rupiah against the US dollar as follows:

Table 1: Estimates of the Deficit Budget

Dependent Variable: BD
 Method: Least Squares
 Date: 05/11/19 Time: 20:26
 Sample: 2000 2017
 Included observations: 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-266720.3	110170.7	-2.420974	0.0297
LPE	-8773.460	14057.16	-0.624127	0.5426
INF	2195.742	511.8663	4.289679	0.0007
EXC	21.93386	8.640651	2.538450	0.0236

R-squared	0.927044	Mean dependent var	117774.3
Adjusted R-squared	0.911411	S.D. dependent var	106053.0
S.E. of regression	31565.53	Akaike info criterion	23.75065
Sum squared resid	1.39E+10	Schwarz criterion	23.94851
Log likelihood	-209.7558	Hannan-Quinn criter.	23.77793
F-statistic	59.29906	Durbin-Watson stat	0.926110
Prob(F-statistic)	0.000000		

Equation 1:

$$BD = -266.720 - 8.773LPE + 2.196INF + 21.933EXC \dots\dots\dots(1)$$

$$SEE = (14.057) \quad (512) \quad (8,64)$$

$$t = (-0,26) \quad (4,29)^{***} \quad (2,54)^{**}$$

$$R_2 = 0,9270 \quad F = 59,30$$

Adj R₂ = 0,9114

In Table 1 and Equation 1, it shows together variations in the rate of economic growth, inflation and the exchange rate of the rupiah against the US dollar have a significant influence on the government budget deficit. Variations in the changes of the three variables provide variations in the government budget deficit of 91.14%, and the remaining 8.86% changes in variations in government budget deficits are influenced by other factors. The partial inflation and the exchange rate of economic growth has a significant impact on the government budget deficit. Thus if there is an increase of 1% inflation, it will cause an increase in the government budget deficit of almost 2.2 billion rupiah. Furthermore, in case of depreciation of the rupiah against the US dollar, it will cause also an increase in the government budget deficit. Thus if there are changes in inflation and the exchange rate will be a significant impact to the development of the government's budget deficit. While the rate of economic growth has not had a significant effect on reducing the Indonesian government's budget deficit.

Rising inflation and currency depreciation of the rupiah against the dollar will lead to routine expenditure and government development expenditure is greater, the purchase of goods and the cost of the use of services sourced from domestic and imports increased, so that in total government spending increases that caused the government budget deficit increases. The economic growth has not created a large role in creating increased revenues or government revenue through tax revenues over the economic activities grow, so has not been able to reduce the government budget deficit reduction Indonesia.

Equation 2 shows the model of the government's budget deficit and other factors, namely: Indonesia lending interest rate differential against the US lending interest rate, foreign domestic investment and gross domestic saving will have an impact on the development of Indonesia's foreign debt is as follows:

Table 2: Estimates of Foreign Debt

Dependent Variable: DEBT Method: Least Squares Date: 05/13/19 Time: 07:52 Sample: 2000 2017 Included observations: 18				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	62048.29	27532.11	2.253670	0.0421
DIR	4795.324	2567.371	1.867796	0.0845
FDI	1.272917	0.757413	1.680613	0.1167
SBD	-1.304516	9.112942	-0.143150	0.8884
BD	0.709974	0.108510	6.542908	0.0000
R-squared	0.957420	Mean dependent var	201898.2	
Adjusted R-squared	0.944318	S.D. dependent var	77738.74	
S.E. of regression	18343.97	Akaike info criterion	22.70212	
Sum squared resid	4.37E+09	Schwarz criterion	22.94945	
Log likelihood	-199.3191	Hannan-Quinn criter.	22.73623	
F-statistic	73.07685	Durbin-Watson stat	0.933094	
Prob(F-statistic)	0.000000			

Equation 2:

$$\begin{aligned}
 \text{DEBT} &= 62.048 + 4.795\text{DIR} + 1.273\text{FDI} - 1.305\text{SBD} + 0,710\widehat{\text{BD}} \dots\dots\dots(2) \\
 \text{SEE} &= (2.567) \quad (0,757) \quad (0,113) \quad (0,109) \\
 t &= (1,86)^* \quad (1,68) \quad (-0,14) \quad (6,54)^{***} \\
 R_2 &= 0,9574 \quad F = 73,07 \\
 \text{Adj } R_2 &= 0,9443
 \end{aligned}$$

In Table 1 and Equation 1, it shows together variations in the rate of economic growth, inflation and the exchange rate of the rupiah against the US dollar have a significant influence on the government

budget deficit. Variations in the changes of the three variables provide variations in the government budget deficit of 91.14%, and the remaining 8.86% changes in variations in government budget deficits are influenced by other factors. The partial inflation and the exchange rate of economic growth has a significant impact on the government budget deficit. Thus if there is an increase of 1% inflation, it will cause an increase in the government budget deficit of almost 2.2 billion rupiahs. Furthermore, in the case of depreciation of the rupiah against the US dollar, it will cause also an increase in the government budget deficit. Thus if there are changes in inflation and the exchange rate will be a significant impact to the development of the government's budget deficit. While the rate of economic growth has not had a significant effect on reducing the Indonesian government's budget deficit.

Rising inflation and currency depreciation of the rupiah against the dollar will lead to routine expenditure and government development expenditure is greater, the purchase of goods and the cost of the use of services sourced from domestic and imports increased, so that in total government spending increases that caused the government budget deficit increases. The economic growth has not created a large role in creating Equation 2 shows the variation in the difference between Indonesian lending interest rates and US lending interest rates, foreign domestic investment, gross domestic savings, and the government budget deficit together have a significant effect on Indonesia's foreign debt. Where variations in the changes in the four variables provide changes in variation in foreign debt by 94.43%, and the remaining 5.57% is influenced by other factors. However partial budget deficits and the lending interest rate differential has a significant positive effect on foreign debts. While foreign investment and gross domestic savings do not affect foreign debt. Thus, if there is an increase in the government budget deficit of 1 billion rupiahs, it will also cause an increase in Indonesia's foreign debt of 0.710 million USD or an increase of 710 thousand USD. Furthermore, if there is an increase in the 1% difference in the lending interest rate on domestic against the lending interest rate of the United States, it will cause an increase in Indonesia debt of 4,795 million USD.

This implies the government's budget deficit and lending interest rate differences will impact significantly in improving Indonesia's foreign debt. Thus the greater the government's budget deficit will lead to an increased demand so that the necessary funding to cover the additional debt. Likewise, if the increase in domestic lending interest rates is compared to the interest rates in the United States causes external loans to be an unavoidable alternative, because of the increasingly high interest payments if done with domestic loans. Whereas foreign domestic investment and gross domestic savings do not have a significant effect on foreign debt. Where foreign investment must be supplemented by domestic funds including government development spending as a companion factor. The gross domestic saving is still relatively low, so it does not make a significant contribution as a source of loan funds to cover debts in the private and government debt, so it has not been able to be a solution in dealing with Indonesia's foreign debt is increasing.

5. CONCLUDE AND DISCUSSION

The budget deficit model shows changes in variations in economic growth, inflation and exchange rates together and provides variations in changes to the government budget deficit. Partially, inflation and the rupiah exchange rate against the dollar have a significant influence on the development of the government budget deficit. On the other side, economic growth has not had a significant influence on reducing the Indonesian government's budget deficit. As for the foreign debt model, it shows a change in the variation in lending interest rates that occurs in Indonesia with respect to the US lending interest rate, foreign investment, gross domestic saving and the impact of simultaneous government budget deficits that provide a significant variation on foreign debt Indonesia. Partially the occurrence of government budget deficits and interest rate differences have a significant influence on the

development of foreign debt. Whereas foreign investment and gross domestic savings do not have a significant influence on Indonesia's foreign debt.

The government continues to control inflation and maintain exchange rate stability, especially through monetary policy and fiscal policy so that the government budget deficit can still be controlled. In addition, the government needs to manage the budget efficiently and effectively in implementing development in various economic sectors and prioritizing more productive economic sectors, as well as trying to explore optimal revenue potential or revenue. The government must also control the stability of domestic bank lending rates so that differences with foreign interest rates (the United States) remain stable, so that the interest of the government or the private sector will decline in lending abroad, ultimately expected to switch to part of the loans from within the country. The government maintains the fairness of the budget deficit in carrying out its fiscal policies, because the government budget deficit that occurs can have implications for the magnitude of Indonesia's foreign debt, so that Indonesia's foreign debt is expected to remain within reasonable limits.

REFERENCES

- Adofu, I., & Abula, M. (2010). Domestic Debt and The Nigerian Economic. *Journal of Economic Theory*, 2(1).
- Basri, F. (2002). *Perekonomian Indonesia*. Jakarta: Erlangga.
- Brautigam, D. A., & Stephen Knack. (2004). Foreign Aid, Institutions dan Governance in Sub Saharan Africa. *Economic Development and Cultural Change*, 13(1).
- Bhavan, T., Xu, C., & Zhong, C. (2011). Growth Effect of Foreign Aid and Volatility in South Asia. *International Journal of Development Issue*, 10(3).
- Brixi, P. H., & Mody, A. (2002). Dealing With Government Fiscal Risk: An Overview: dalam Government at Risk, *World Bank & Oxford University Press*.
- Burnside, C., & Dollar, D. (2000). Aid, Policies dan Growth. *The American Economic Review*, 90(4).
- Hatemi., Nasser, A., & Irandoust, M. (2005). Foreign Aid nd Economic Growth: New Evidence From Panel Cointegration. *Journal of Economic Development*, 3(1).
- Heller, P. (1975). A Model of Public Fiscal Behavior in Developing Countries: Aid, Investment and taxation. *American Economic Review*, 65(3).
- Khairin, M, M,. (2013). Analisis Pengaruh Utang Luar Negeri Dan Penanaman Modal Asing Terhadap Pertumbuhan Ekonomi Indonesia Tahun 1986-2011. Universitas Brawijaya, Malang.
- Lestari, S, R. (2011). Outlook penyerapan belanja kementerian/lembaga pusat kebijakan APBN badan kebijakan Fiskal.
- Mankiw, N, G. (2006). *Makro ekonomi*. Gelora Aksara Pratama: Erlangga.
- Papanek, G, F. (1973). Aid, Foreign Privat Investment, Savings, and Growth in Less Developed Countries. *Journal of Political Economy*, 81 (339).

Quazi, R. M. (2005). Effects of Foreign Aid on GDP Growth and Fiscal Behavior: An Econometric Case Study of Bangladesh. *The Journal of Developing Areas*, 38(2).

Syaparuddin, (1996). Hutang Luar Negeri dan Dept Servis Ratio Indonesia. *Jurnal Manajemen dan Pembangunan FE Universitas Jambi*, Edisi Maret 2002.

Tambunan, T. (2001). *Perdagangan Internasional dan Neraca Pembayaran: Teori dan Temuan Empiris*. Jakarta, LP3ES.

Swamy, V. (2015). Government debt and its macroeconomic determinants—an empirical investigation. *Available at SSRN 2601875*.

Vuyyuri, S., & Sessaiah, S. V. (2004). Budget deficits and other macroeconomic variables in India. *Applied Econometrics and International Development*, 4(1).

Weiskopf, T. E. (1972). The Impact of Foreign Capital Inflow on Domestic Savings in Under Developed Countries. *Journal of International Economic*, 2(1).

Widharma, I, W, G., Budi, I, M, K, S., & Marhaeni, A, A, A, N. (2008). Utang Luar Negeri Pemerintah Indonesia Kajian Terhadap Faktor – Faktor Yang Berpengaruh. Universitas Udayana

www.bi.go.id statistic ekonom keuangan Indonesia diakses pukul 12.53 tanggal 23 april 2019

www.anggaran.depkeu.go.id diakses pada diakses pukul 14.14 tanggal 23 april 2019

www.kemenkeu.go.id diakses pukul 20.01 tanggal 23 april 2019.