ANALYSIS OF THE DETERMINANTS OF GOVERNMENT FOREIGN DEBT IN INDONESIA PERIOD 2005:Q1-2017:Q4

Hanif Mutiara Rohmah

hanifmutiara00@gmail.com

International Program for Islamic Economics and Finance Departement, Economics and Business Faculty **,** Universitas Muhammadiyah Yogyakarta, Jalan Brawijaya, Kasihan, Geblagan, Tamantirto, Kasihan, Bantul, Daerah Istimewa Yogyakarta 55183

ABSTRACT

This research aims to analyze factors that influence Indonesian government foreign debt. The study employed the quantitative approach by using secondary data from the period 2005:Q1-2017:Q4. Analysis method that is used in this research is Multiple Linear Regression. Variables that are used namely government foreign debt, Indonesia rupiah exchange rate against US dollar, government expenditure, economic growth denoted by GDP and government revenue. The result of this research indicated that all of the independent variables simultaneously had significant influence toward dependent variable of Indonesian government foreign debt. Variable of Indonesia Rupiah (IDR) exchange rate against United State Dollar (USD) and government revenue partially influenced Indonesian government foreign debt with negative correlation.

Keywords: *Government Foreign Debt, Exchange Rate, Government Expenditure, Economic Growth, Government Revenue, Multiple Linear Regression.*

INTISARI

Penelitian ini bertujuan untuk menganalisa factor-faktor yang mempengaruhi utang luar negeri pemerintah di Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dengan data sekunder periode kuartal 1 2005-kuartal 4 2017 yang didapat dari studi pustaka dan studi dokumen dari Bank Indonesia (BI), Kementerian Keuangan RI, dan website resmi data ekonomi terkait. Metode analisis yang

digunakan dalam penelitian ini adalah Regresi Linier Berganda. Variabel yang digunakan dalam penelitian ini adalah utang luar negeri pemerintah, nilai tukar Indonesia rupiah terhadap dollar Amerika Serikat, pengeluaran pemerintah, pertumbuhan ekonomi yang direpesentasikan oleh variabel GDP, dan pendapatan pemerintah. Hasil dari penelitian ini menunjukkan bahwa seluruh variabel independen dalam penelitian ini secara bersama-sama mempunyai pengaruh signifikan terhadap variabel dependen dalam model yakni utang luar negeri pemerintah Indonesia. Variabel nilai tukar IDR terhadap USD dan pendapatan pemerintah secara parsial berpengaruh negatif terhadap utang luar negeri pemerintah Indoensia.

Kata kunci: *Utang Luar Negeri Pemerintah, Nilai Tukar, Pengeluaran Pemerintah, Pertumbuhan Ekonomi, Regresi Linier Berganda.*

I.   BACKGROUND

Development in various fields in supporting the economic development of a State is never separated from the role of government. In the development process, financing will increase along with the achievement of the development objectives. According to Aron (2017), Indonesia's competitiveness rankings rose to position 36 according to the World Economic Forum (WEF) report. In a report entitled Global Competitiveness Index 2017-2018 edition, Indonesia's competitiveness has risen 5 ranks from last year's position rank 41. The increase in rank occurred by a relatively strong improvement in infrastructure and macroeconomics.

Salvatore and ET Dowling. D (1997) in Pasaribu (2012) said that economic development is basically defined as a process in which real GDP and per capita real income increase over a period of time continuously through increases in per capita productivity. According to Pasaribu (2012), economic development of a country, on the one hand, requires a relatively large fund. While on the other hand, the mobilization

of funds to finance the construction faces obstacles. The main problem is the difficulty in capital formation, both derived from government revenues, exports of goods abroad and from the public through the instruments of tax as well instruments of financial institutions. In general, the mobilization of capital from the community can be the deployment from within the country and the mobilization of capital sourced from abroad. This classification is based on a source of capital that can be used in development.

Atmadja (2008) in Zulham (2017) explained that Indonesia is a third world country. Prior to the monetary crisis in Southeast Asia, Indonesia had a high rate of economic growth. This was in line with the economic development strategy that was reserved by the government at that time, which placed the target of high economic growth as the target of national development priority. Indonesia's economic growth since the late 1970s had always been positive, as well as relatively low per capita income levels, causing relatively high economic growth targets were not sufficiently financed by their own capital but must be supported with foreign capital assistance. The government which initially became the main motor of development continues to increase its foreign debt in order to be used to finance the national economic development in order to achieve the target of high economic growth rate, without accompanying the mobilization of capital in the country. This indicated a positive correlation between the success of economic development at the macro level and the increase in the amount of government foreign debt (growth with indebtedness).

Deployment of capital sourced from abroad commonly called with foreign debt is no longer something new in a country's economy, moreover developing countries like Indonesia. Since the pre-reform era of the old order and the new order, Indonesia

has known and used the instrument of foreign debt as one source of financing the needs of the state. Moreover, when the government budget deficit becomes more visible in terms of expenditure that swells every year.

Foreign debt is the commitment of developed countries to fill the resource gaps in the macroeconomics of developing countries. The effectiveness of foreign debt utilization is designed to bridge the savings/investment gap and balance of payments imbalance in developing countries and place it as a pathway to help developing countries work on self-sustaining development (Manoppo, 2007).

Table 1,1
Indonesia Government Expenditure and Revenue (Billion Rupiah)

Period	Revenue	Expenditure
1996	55,987	60,027
1997	64,715	67,945
1998	72,931	203,531
1999	22,345	34,474
2000	111,064	354,578
2001	184,737	345,605
2002	214,713	377,248
2003	248,47	427,226
2004	278,208	565,07
2005	351,974	699,099
2006	425,053	752,373
2007	492,011	989,494
2008	609,228	1.000,844
2009	651,955	1.126,146
2010	743,326	1.320,751
2011	878,685	1.548,310
2012	1.016,237	1.726,191
2013	1.016,237	1.876,873
2014	1.246,107	1.984,150

Source: Bank Indonesia

From the table above, it shows how the exceeding of expenditure to revenue leads to the increasing of foreign debt in Indonesia. Since the period of 1996 until 2014, the revenue and expenditure of Indonesia government are fluctuating but the

trend is increasing from year to year. It shows from the table that all the amount of expenditure is bigger than the amount of revenue. This case is one of the cause of taking fund from foreign debt.

According to Saleh (2008), foreign debt itself is done because government revenue derived from taxes and other receipts is not sufficient to finance government expenditures, both for public expenditure and personnel expenditure. Thus the loan becomes one of the factors determining the fiscal (fiscal sustainability) continuity of a State budget. With the use of loans as a tool to cover the budget deficit of the government, this will have implications on the balance of payments which then also has implications on the performance of the government expenditure. In the government of Indonesia, this will be closely related to the extent to which the government's ability in fiscal management in the Budget of State Revenue and Expenditure (APBN) as possible.

Described in several economic conversations, the Indonesian economy is improving or it can be said to be still in a good level compared to other countries in the last 2 years although government expenditure continues to increase. In an Indonesia 2017 update report at Australia National University (ANU) with the theme of Survey of Recent Development (The Effectiveness of Policy Reform in Decentralized Indonesia), Raden Pardede as a speaker explained that the Indonesian economy in 2017 is still quite good, although most of the data obtained indicate a weakening of growth from domestic demand, while macro stability and financial stability are still intact. An indication of macro stability is called intact awake is based on strong BOP, low CAD, some trade surplus that makes the accumulated reserves and

exchange rates stable. Inflation in 2017 also continues to fall and low. Interest rate and government bond yield also decreased but still attractive. Despite the weakening domestic demand, domestic demand data remained slightly improved from the previous year. He said that in 2017 GDP growth will continue to decline due to steadily declining consumption, investment declines more, government consumption declines, export-import also declined. The decline in investment, in this case, is the comparison of the value of the previous period of disagreement is very high. Although the results of the survey data say that government consumption is declining, expenditures for infrastructure continue to increase from year to year. The decline in GDP growth this year is not matched by good fiscal policy quality. Raden Pardede also explained that income from the tax sector (% GDP) is still relatively small and declining. Even income from the tax sector is lower than the expenditure figure. The bloated spending figures are still dominated by high spending on infrastructure and subsidy financing. Moreover, the new policy to subsidize premium rice.

News of the Indonesian economy was also presented by Thomas Lembong as the Head of the Investment Coordinating Board in an economic conversation that, in terms of government foreign debt, Indonesia is still much better than other countries in the world such as Malaysia, China, USA, etc. Rising foreign debt of the government itself is mostly from infrastructure and sub-infrastructure expenditures. However, some additional figures from other sectors, namely the increase in the portion for education by 10%, for the health of 54% of all sectors are still below the 117% rate for infrastructure. In addition to these improvements, the government has also compensated with a decrease in the share of energy subsidies.

Macro stability cannot be separated from fiscal and monetary roles in an economy. The government's foreign debt is also said to be very safe by Finance Minister Sri Mulyani in an Economic Challenges' economic conversation that the foreign debt of the Indonesian government is still low compared to other countries in the world. Sri Mulyani explained that Indonesia's foreign debt is 27% -28% of GDP which is still below 30%. In fact, the foreign debts of other countries in the world can reach more than 100% of GDP. In addition, the deficit reached 2,4% -2,5% but with the growth of Indonesia's economy which reached 5%, this means that Indonesia's economy still has the ability to pay debts and interest. Sri Mulyani also added that the increase of government external debt is largely dominated by the infrastructure sector, but the allocation of spending on infrastructure also provides a quick reciprocity to spur Indonesia's economic growth. The measure for debt taken by the government is for the welfare of the people.

Different from the above statement, Bank Indonesia as the country's economic stabilizer states that Indonesia's economic condition in 2017 was very surprising. Slow economic growth, fiscal deficit, low credit growth followed by a rise in non-performing loans, Indonesia's competitiveness declined from 37 to 41 from 138 countries, and one of the most important was the increase in foreign debt (Kompas, November 2016). October 2017 Indonesia's foreign debt amounted to the US $ 341,5 billion, grew 48% from the previous period. From the public sector (government and central bank), foreign debt rose by 8,4% but this increase was lower than the previous period's increase of 85%. While for the private sector rose 1,3% higher than the previous month. For the ratio of debt to GDP reaches 34%. This month's figure was

also dominated by long-term debt of 86,3% of total foreign debt and grew 3,9% more than the previous month's 3,7%. For short-term debt rose by 10,6% less than the previous month's 12,6% (Kompas, Desember 2017).
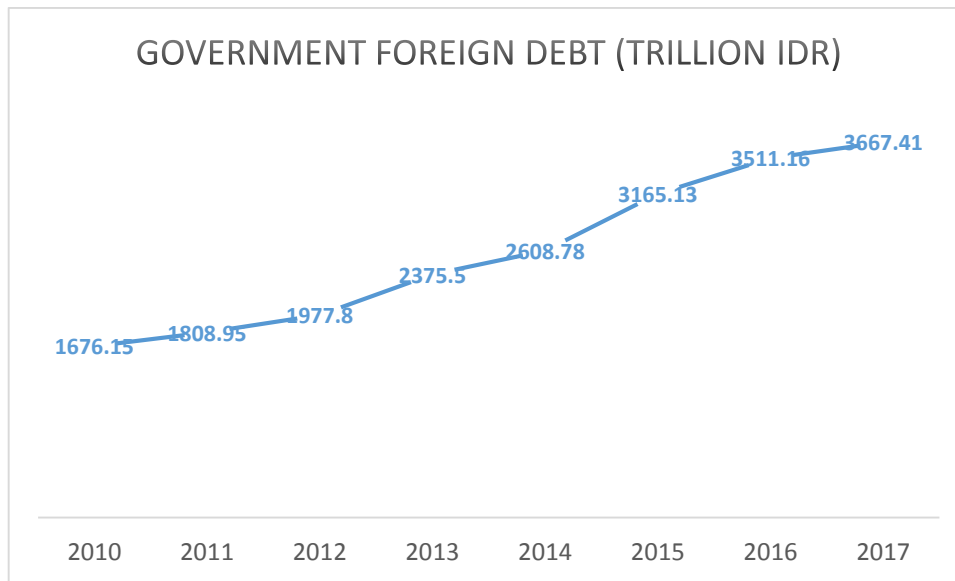

Source: Bank Indonesia

Figure 1.1

Government Foreign Debt Development

The explanation above is supported by the fact based on the graph in figure 1.1. It is stated that the amount of government foreign debt keeps increasing from year to year since the period of 2010 until 2017. The highest number is in the updated period of 2017 that is 3667,41 trillion IDR.

In addition, several sources of economic news reported that Indonesia's foreign debt continued to increase each month in 2017, the rise was dominated by public sector external debt. Some other facts that support the government's foreign debt continue to increase are that government spending has swelled from before 2017, in 2016 State revenues are still smaller than the State expenditure of 1750 Trillion IDR and 2020

Trillion IDR for State expenditure. Large expenditures are due to infrastructure that will increase the amount of government debt. Each year, the government prints an average debt of 2,5% of the state budget for the last 3 years. Indonesia's foreign debt position reaches 27% of GDP, exactly what the Minister of Finance has said and it is estimated that around the US $ 907 or 13 million IDR of debt per individual in Indonesia bear the burden of the country's debt.
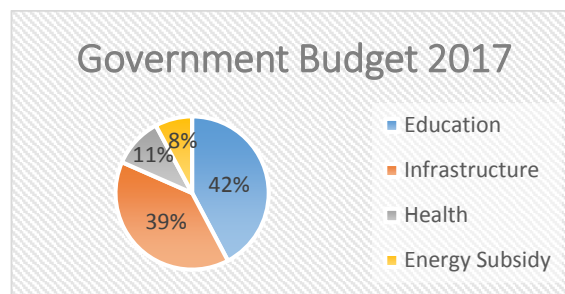
Source: Kementrian Keuangan RI

Figure 1.2

Government Budget 2017

Based on the above diagram, government expenditures for the process of economic development of education recorded 42% of total government expenditure or spelled out 416,1 Trillion IDR, this figure occupies the highest position in government spending in 2017. The second position is occupied by the infrastructure sector which is 39% of total government expenditure or approximately 387,3 Trillion IDR. The next position is the health sector which is 11% of total government expenditures or calculated 104,0 T IDR. The last is the share of government spending for energy subsidies that is 8% or somewhat 77, 3 Trillion IDR. Improving the quality of the allocation of government spending aims to spur improvements in Indonesia's economic development process.

Recent economic report stated that in the last 3 years Indonesia foreign debt is increasing significantly. But the economic growth as one of main objectives of borrowing money from abroad is said stagnant in the number of 5%. By the calculation of GDP Indonesian economic rises 8,74% annually in the period of 2005-2017, while government debt total in the same period also rises 14,81% per year. State budget of 2018 estimates that government foreign debt will catch 4.772 trillion IDR. If it is being accumulated with private debt, the total of debt is about 7.000 trillion IDR. From the ministry of finance data, February 2018 government foreign debt from obligation is about 3.257,26 trillion IDR or 80,73% of total debt for government (Damhuri, 2018).

Based on the economic report named wartapilihan, if the government's foreign debt continues to rise due to the swelling of government spending from the infrastructure and education sectors, then the debt will remain up from time to time. Because the field of infrastructure and education is an important part of a State's economy to support economic growth and will continue to increase its quantity. While this is done for better economic growth, this means the same thing as what the government is gouging to dig a hole in a hole. Indeed government debt is still very safe that is below 30% even still far below the regulations in the applicable Law that is under 60% of GDP, but accumulating debt is also not a good solution. Moreover, Indonesia does not have large foreign exchange reserves as a safety to pay debts, especially short term. Indonesia currently has foreign exchange reserves of US $ 123 billion as of April 2017. In addition, the current state assets, also relatively small, only about 4000 trillion IDR. Likewise with the assets of state-owned companies that

reached 3800 trillion IDR, on the other hand also still has a debt of nearly 2000 trillion IDR.

Based on the above description, the variables that are used in this research including Indonesia rupiah exchange rate against United State dollar, government expenditure, economic growth denoted by GDP, and government revenue. This research would like to anticipate and minimize the government's foreign debt which continues to increase from year to year, the author is interested to know what factors affect the foreign debt of the Indonesian government. This research also needs to be done to see how far the position of Indonesian government foreign debt influenced by these factors. Therefore, the author takes the title **"Analysis of The Determinants of Government Foreign Debt in Indonesia Period 2005:Q1-2017:Q4".**

This research has several objectives, among others:

1. To determine the influence of rupiah exchange rate against US dollar on Indonesia government foreign debt in the period of research.

2. To determine the influence of government expenditure on Indonesia government foreign debt in the period of research.

3. To determine the influence of economic growth on Indonesia government foreign debt in the period of research.

4. To determine the influence of government revenue on Indonesia government foreign debt in the period of research.

II.   LITERATURE REVIEW AND THEORITICAL BASIS

Foreign Debt Theory

Foreign debt is any State revenue either in the form of foreign exchange in rupiah, rupiah or goods and/or services derived from foreign lenders to be repaid on certain conditions (Machmud, 2016). Based on the description in Arsyad (1999), the foreign aid (overseas) intended herein includes government or private sourced assistance.

Theoretically, the problem of foreign debt can be explained through the approach of national income. As one source of development financing, foreign debt is required to cover 3 deficits, namely investment savings gap, budget deficit and current account deficit. The third relationship of the deficit is explained by Basri (2004) in Harahap (2007) using the three gap models theory framework obtained from the national income identity equation, namely:

Expenditure Side

$$Y = C + I + G + (X - M) \ldots\ldots\ldots\ldots\ldots (1)$$

Where :

Y   = GDP

C   = Total Consumption of Society

I   = Private Investment

G   = Government Spending

X   = Exports of Goods and Services

M   = Imports of Goods and Services

Revenue Side

$$Y = C + S + T \ldots\ldots\ldots\ldots\ldots\ldots\ldots.(2)$$

Where:

C   = Total Concumption of Society

S   = Government Saving

T   = Government Tax Revenue

If both sides of the national income identity are combined, it will be obtained:

(M-X) = (I-S) + (G − T) …………………(3)

Where :

(M-X)   = Current Account Deficit

(I-S)   = Investment Saving Gap

(G-T)   = Government Budget Deficit

The relationship between the need for foreign debt and the three deficits is shown using

the balance of payments identity:

Dt = (M-X)t + Dst − NFLt + Rt − NOLT ……. (4)

Where :

Dt   = Debt in year 1

(M-X)t   = Current Account Deficit in year 1

Dst   = Payment of debt burden (interest+ amortization) in year 1

NFLt   = Net inflows of private capital in year 1

Rt   = Reserves monetary authorities in year 1

NOLT   = Net capital inflows of short-term capital flight and others in year 1.

This equation shows that the Foreign Debt (left side) is used to finance the current

account deficit, debt financing, reserves of monetary authority and capital

requirements as well as short-term capital flows such as capital flight. If (3) is

substituted on (4), then the equation will be obtained:

Dt = (I-s)t + (G-T)t + DSt + NFLt + Rt − NOLT …….(5)

The formula (5) shows, in addition to financing the current account deficit, foreign

debt is also required to finance the budget deficit of the government, as well as the

saving-investment gap with foreign debt.

Exchange Rate Theory

The exchange rate is the price of a currency of a State as measured or expressed in other currencies. In making expenditure decisions, the role of exchange rates is very important because exchange rates work for a State in translating prices from different countries into the same language.

Government Expenditures Theory

In Prasetya (2012), it is pointed out that society needs a material and spiritual prosperity, the purpose of the sentence is the fulfillment of evolving wants and needs. In the implementation of the fulfillment of these needs used goods and services with various forms including the form of money. The use of money to perform the functions of government is what is meant by government spending. Government expenditure is also defined as the use of money and resources of a State to finance a State or government activity in order to realize its function in welfare. According to Mangkoesoebrot (1994), government spending reflects government policy. If the government has established a policy to purchase goods and services, government expenditures reflect the costs incurred by governments to implement the policy.

Economic Growth Theory

According to Samuelson & Nordhaus (2011) in Hatta (2011), economic growth illustrates the expansion of potential GDP or national output of the State. In other words, economic growth occurs when the production-possibility frontier (PDF) of the nation is shifting out. Presented in Hatta (2011), economic growth is a process whereby an increase in real gross national product or real national income. So the economy is said to grow and develop when there is real output growth. In addition, economic growth can also be interpreted by an increase in output per capita. Economic

growth illustrates the livability of living standards is measured by real output per person.

1) The Neo-Classical Economic Growth Theory.

The increase in foreign debt to finance government spending only raises economic growth in the short term, but in the long run, it will not have a significant impact due to crowding out, a situation where there is overheated in an economy that causes private investment to decrease which will eventually decrease gross domestic product. The budget deficit financed by foreign debt will increase individual consumption. While repayment of debt principal and its repayments in the long term will impose a tax increase for the next generation.

Government Revenue Theory

In this case, the researcher using the theory of national income with its calculation method. There are 3 methods to calculate national income, those are:

1) Production Approach Method.

Production approach is additional value which established in a production process.

$$Y = (P_1Q_1) + (P_2Q_2) + \cdots (P_nQ_n)$$

Information:

Y   = national income

P1 = price of goods 1

Q1 = goods 1

Pn = price of good n

Qn = good n

2) Revenue Approach Method.

Revenue approach is an approach which is national revenue earned by accumulating revenue from any kind of production factor which gives contribution to production process.

$$Y = r + w + i + p$$

Information:
Y = national income
R = income from wages, etc
w = net income from rent
i = income from interest
p = income from corporate profit and individual enterprise.

III. RESEARCH METHODOLOGY

Objects observed in this study are Indonesia's foreign debt in the period of quarter 1 2005 to quarter 4 2017, the external debt under study is the foreign debt of the Indonesian government as the dependent variable. Meanwhile, exchange rate, government expenditure, economic growth denoted as gross domestic product (GDP), and government revenue are variable that influence/independent variable.

This research is using quantitative method. Quantitative method is scientific approach toward economic and managerial decision making (Kuncoro, 2007). This method is stated as quantitative method since the data on this research consists of numbers and uses statistical analysis (Sugiyono, 2008). In this research, the researcher uses descriptive research. According to Sukardi (2007) the objective of descriptive research is to describe fact systematically and object or subject characteristics appropriately. Multiple linear regression analysis with ordinary least square method is obtained to analyze data and model in this research.

IV. RESULT AND DISCUSSION

Classical Assumpion Test

1) Autocorrelation Test

Table 5.1
The Lagrange Multiplier Test (LM) Result

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	22.63215	Probability	0,0000
Obs*R-squared	26.07613	Probability	0,0000
R-squared	0.501464	Durbin Watson Stat	1.855976

Source: data processed

Based on the LM test results above, the probability value of chi-squares is 0,000. Since the probability value of chi-square is less than α = 5%, then in this model detected an autocorrelation problem. From the above results, it is known that R-squared 0,581015 is smaller than the Durbin Watson statistical value 1,779166. So in this study, the problem of autocorrelation cannot be overcome by changing to the first difference form but the authors solve the problem of autocorrelation by using the transformation of the known as Generalized Difference Equation method by entering the coefficient of model AR (1) into the equation model detected autocorrelation problem (Widarjono, 2017).

Table 5.2
The Result of Solving Autocorrelation Problem by Generalized Difference Equation Method

ARMA Maximum Likelihood (OPG-BHHH)	
R-squared	0,989100
Durbin-Watson Stat	1,745912

Source: data processed

The above table is the result of the correction to overcome the problem of autocorrelation by using Generalized Difference Equation method by doing AR process that is by entering AR coefficient (1) into the regression equation to eliminate the correlation between error. Durbin-Watson statistic is 1.745912. From this model, it is known that k=4; n=52. Then we can determine the value of dU and

dL from Durbin Watson table which is known that the value of dU is 1,724 and dL

is 1,414, and 4-dU is 2,276. Since the value of Durbin-Watson statistic is between

dU and 4-U, then in this multiple linear regression is no longer detected

autocorrelation problem.

2) Normality test.

Table 5.3
The Jarque-Berra Test (J-B Test) Result

Jarque-Berra Test:	
Jarque-Berra	1,532554
Probability	0,46470

Source: data processed

Based on the result in table 4.3 above, the jarque-Berra probability value is

0,46470. The result states that the Jarque-Berra probability value is more than

$\alpha = 5\%$, it can be interpreted that the data in multiple linear regression of this

model is normally distributed.

3) Heteroskedasticity test.

Table 5.4
The Breusch-Pagan-Godfrey Heteroskedasticity Test Result

Breusch-Pagan-Godfrey Heteroskedasticity Test:			
F-statistic	1,887332	Probability	0,1259
Obs*R-squared	7,196514	Probability	0,4688

The probability value of Obs*R-squared can be seen from the

probability of Chi-Square. From the test results using this Breusch-Pagan-

Godfrey probability value is 0.4688 or greater than $\alpha = 5\%$ which means there

is no heteroskedasticity in multiple linear regression model.

4) Multicollinearity test.

Table 5.5
Coefficient Covariance Matrix Multicollinearity Test

	C	ER	GOVEXP	GOVREV	GDPGROWTH
C	47118543	-6536.56365	67.41887161	-0.001267977	25.64718181
ER	-6536.56	1.163768025	0.038960207	-0,000000378	-0.005266159
GOVEXP	67.41887	0.038960207	0.014934186	-0,000000171	-0.000304285
GOVREV	-0.00127	-0,000000378	-0,000000171	0,00000000000199	0,00000000260
GROWTH	25.64718	-0.00526616	-0.000304285	0,00000000260	0,0000378

Source: data processed

Based on Table 4.6 above, not all values between two independent variables are less than 0,85. This means that the regression model in the multiple linear regression has the multicollinearity problem. According to Widarjono (2017), the multicollinearity problem can be solved by using variabel transformation. The transformation in this case means the variables are transformed into first difference form. This form will reduce the multicollinearity problem, because if the multicollinearity problem is detected in the level of X1 and X2 then it can be possible that in the level of first difference, high correlation will not be detected.

Table 5.6
Coefficient Covariance Matrix First Difference Multicollinearity Test

	C	D(ER)	D(GOVEXP)	D(GOVREV)	D(GDPGROWTH)
C	652918.9413	-57.31898583	-117	0.000878598	-3.72491379
D(ER)	-57.31898583	0.648737727	0,0215	-0,000000192	-0.001296341
D(GOVEXP)	-117	0,0215	0,0533	-0,000000506	0.00052005
D(GOVREV)	0.000878598	0,000000192	-0,000000506	-0,00000000000522	-0,00000000555
D(GROWTH)	-3.72491379	-0.001296341	0.00052005	-0,00000000555	0.000101241

Source: data processed

After being transformed into first difference form, then it can be seen from the result table that all values between two independent variables are less

than 0,85. This means the multicollinearity problem in this model has been solved.

Research Result (Hypothesis Test)

This research is using multiple linear regression analysis ordinary least square method. The model of this research is:

$$\text{Debt}_t = a + \beta_1\,\text{ER}_t + \beta_2\,\text{Growth}_t + \beta_3\,\text{Govexp}_t + \beta_4\,\text{Govrev}_t + e \qquad (4.7)$$

Information:

Debt   = Government foreign debt
a   = Constanta
$\beta_1 - \beta_4$ = Regression coefficients of each variables
ER   = Rupiah exchange rate toward US dollar
Growth   = Economic growth denoted by GDP
Govexp   = Government expenditure
Govrev   = Government revenue

1. The Result of regression estimation.

Table 5.8

The Result of Regression Estimation

Variables	Regression		
	Coefficient	T-Test	Prob
Constanta	88681,58	6864,295	0.0000
ER	-5,5871107	1,078781	0.0000
Growth	0,054239	0,122206	0.0000
Govexp	0,726138	0,00000141	0.0000
Govrev	-0,00000815	0.006148	
R-Squared		0.969667	
F-Statistic		375.6149	

Prob F-stat	0.000000

Dependent variable: Debt
Source: Data Processed

a. t-Test.

Constant.

Based on the regression results in table 4.8, the value of the constant coefficient is 88681,58. It means that when all the independent variables rupiah exchange rate toward US dollar (ER), economic growth denoted by GDP (Growth), government expenditure (govexp), and government revenue (govrev) are considered to be constant, so the amount of government foreign debt is 88681,58.

Rupiah exchange rate toward US dollar (ER).

The null hypothesis (Ho) states that exchange rate has a significant effect on government foreign debt in Indonesia. The alternative hypothesis (H1) states that exchange rate does not affect the government foreign debt in Indonesia.

Degrees of freedom (df) is 52-1 = 51 and a significance level of 5 percent ($\alpha = 0.05$), the values obtained t-table $\pm$ 1,67528. Here are the criteria for decision-making:

Based on table 4.8, the value of t-test obtained by exchange rate (ER) is 1,078781 less than t-table (1,67528) and probability level of ER is 0,0000 is less than 0.05. So, it can be concluded that the null hypothesis (H0) is accepted. It means the exchange rate variable affects government foreign debt. Here is the effect of exchange rate variable graphically:
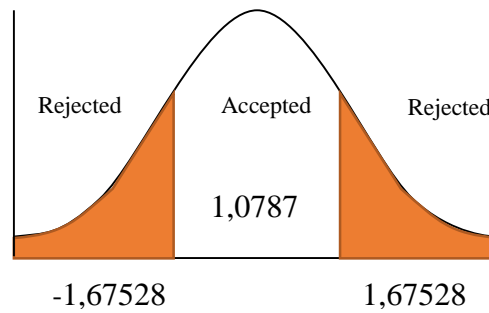
Figure 5.1
T-Test ER to Debt

The table also shows that the value of the coefficient (β_1) variable of exchang rate (ER) that is equal to -5,5871107. The value of coefficient is negative. It means that rupiah exchange rate against US dollar and government foreign debt have a negative correlation in this research. If the value of exchange rate increased (appreciation) by 1 percent, so the amount of government foreign debt will decrease by -5,5871107%, it can be assumed that other factors are considered fixed or ceteris paribus.

Economic growth denoted by GDP (Growth).

The null hypothesis (Ho) states that economic growth has a significant effect on government foreign debt in Indonesia. The alternative hypothesis (H1) states that exchange rate does not affect the government foreign debt in Indonesia.

Degrees of freedom (df) is 52-1 = 51 and a significance level of 5 percent (α = 0.05), the values obtained t-table ± 1,67528. Here are the criteria for decision-making:

Based on table 4.8, the value of t-test obtained by economic growth is 0,122206 less than t-table (1,67528) and probability level of economic growth is 0,0000 which is less than 0.05. So, it can be concluded that the null hypothesis (H0) is accepted. It means the economic variable affects government foreign debt. Here is the effect of exchange rate variable graphically:
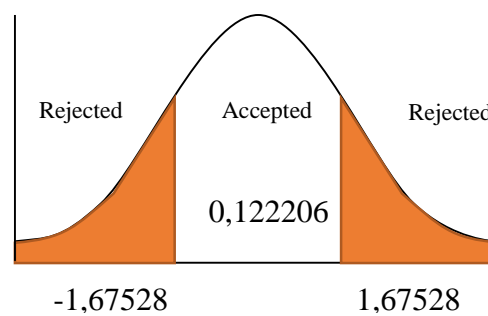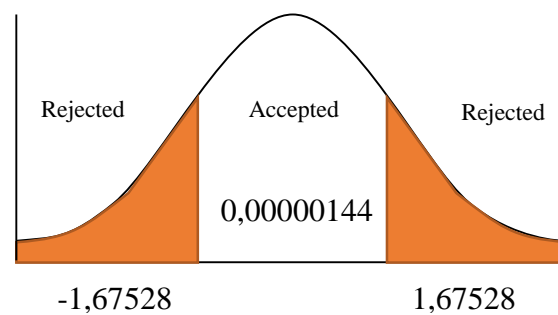

Figure 5.2
T-Test Economic Growth to Debt

The table also shows that the value of the coefficient (β_1) variable of economic growth (Growth) that is equal to 0,054239. The value of coefficient is positive. It means that economic growth and government foreign debt have a positive correlation in this research. If the economic growth increased by 1 percent, so the amount of government foreign debt will increase by 0,054239%, it can be assumed that other factors are considered fixed or ceteris paribus.

Government expenditure.

The null hypothesis (Ho) states that government expenditure has a significant effect on government foreign debt in Indonesia. The alternative hypothesis (H1) states that government expenditure does not affect the government foreign debt in Indonesia.

Degrees of freedom (df) is 52-1 = 51 and a significance level of 5 percent (α = 0.05), the values obtained t-table ± 1,67528. Here are the criteria for decision-making:

Based on the table 4.8, the value of t-test obtained by government expenditure is 0,00000144 which is less than t-table (1,67528) and probability level of government expenditure is 0,0000 which is less than 0.05. So, it can be concluded that the null hypothesis (H0) is accepted. It means the government expenditure variable affects government foreign debt. Here is the effect of exchange rate variable graphically:

Rejected   Accepted   Rejected

0,00000144

-1,67528   1,67528

Figure 5.3
T-Test Government Expenditure to Debt

The table also shows that the value of the coefficient (β_1) variable of government expenditure that is equal to 0,726138. The value of coefficient is positive. It means that government expenditure and government foreign debt have a positive correlation in this research. If the government expenditure increased by 1 percent, so the amount of government foreign debt will increase by 0,00000144 %, it can be assumed that other factors are considered fixed or ceteris paribus.

Government revenue.

The null hypothesis (Ho) states that government revenue has a significant effect on government foreign debt in Indonesia. The alternative hypothesis (H1) states that government revenue does not affect the government foreign debt in Indonesia.

Degrees of freedom (df) is 52-1 = 51 and a significance level of 5 percent ($\alpha = 0.05$), the values obtained t-table $\pm$ 1,67528.

Based on the table 4.8, the value of t-test obtained by government revenue is 0,006148 which is less than t-table (1,67528) and probability level of government revenue is 0,0000 which is less than 0.05. So, it can be concluded that the null hypothesis (H0) is accepted. It means the government revenue variable affects government foreign debt. Here is the effect of exchange rate variable graphically:
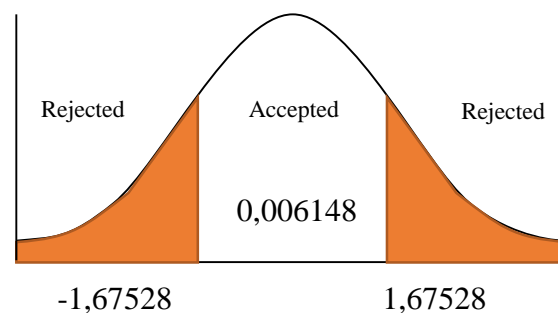

Figure 5.4
T-Test Government revenue to Debt

The table also shows that the value of the coefficient (β_1) variable of government revenue that is equal to 0,726138. The value of coefficient is positive. It means that government expenditure and government foreign debt have a positive correlation in this research. If the government expenditure increased by 1 percent, so the amount of government foreign

debt will increase by -0,00000815 %, it can be assumed that other factors are considered fixed or ceteris paribus.

b. F-Test.

The statistic of F-test is basically to determine the influence of independent variables on the dependent variable simultaneously. The null hypothesis states that simultaneously all independent variables those are exchange rate, economic growth, government expenditure, and government revenue affect the government foreign debt in Indonesia. Degrees of freedom (df = k = 4, n-k-1 = 52 - 4 - 1 = 47) and significance level of 5 percent (α = 0,05), the values obtained F-tabel by ± 2,57.

The effect of variable exchange rate, economic growth, government expenditure, and government revenue affect the government foreign debt in Indonesia in the following graph:
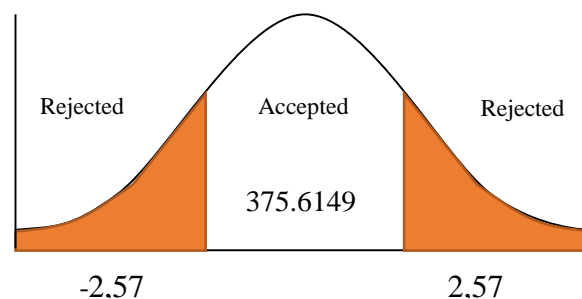

Figure 5.5
F-Test :ER, growth, Govexp, Govrev to
Debt

Based on the table 4.8 shows that the value of F-test by 375.614937, where the number is greater than F table (2.61) and the level of probability of F-statistic is 0.000000, which is smaller than 0.05. So, it can be

concluded that the null hypothesis (Ho) is accepted. It means variable exchange rate, economic growth, government expenditure, and government revenue simultaneously affect the government foreign debt in Indonesia.

c. Coefficient determination (R^2).

According to table 4.8, it can be concluded the regresseion model in this research is

Debt $= 88681,58 - 5,5871107$ ER $+ 0,054239$GDPgrowth $+ 0,726138$govexp$-0,00000815$govrev$+ e.$

Based on the table 4.8 also, the R square value of government foreign debt regression with all independent variables is 0,969667. It means that the value of independent variables explain the government foreign debt variable is 96,9667%, while the 3,0333 % is explained by other factors that are not in the model.

V. CONCLUSSION AND SUGGESTION

Conclusion

Based on the research that has been done, it can be concluded as follows:

1. As an indicator of international relations of a State with other States and as the language of a means of payment, the rupiah exchange rate against the US dollar has an influence on the Indonesia government's external debt. Based on the results of the research analysis, the exchange rate of Indonesian Rupiah (IDR) against the US dollar (USD) has a negative and significant effect on the foreign

debt of the Indonesian government in the period of study. According to (Yuliadi, 2006), this condition is understandable given that Indonesia's foreign debt is mostly expressed in US dollars so that when there is a rise in US dollar currency, the burden of the government's foreign debt increases .

2. Government spending as a part of the State development process and economic development has a very strong relationship with the government's external debt. Based on the results of the research analysis, government spending has a positive and significant influence in the period of study. This condition is caused by the improvement of government spending in order to be more efficient. The implementation of this policy is shown by the increasing amount of government spending in the infrastructure sector, education, health and followed by energy subsidy. As the amount of government spending continues to increase, government is trying to close the gap between revenue and spending. The effort of increasing the capital expenditure of government expenditures that continue to swell is strongly influenced by the existence of loans from abroad. Thus the government's foreign debt trend keeps increasing from time to time as the additional source of fund in a country.

3. Gross domestic product as an indicator of economic growth has a positive and significant effect on Indonesia's foreign debt. This is in line with the economic policy being undertaken by the Ministry of Finance in the period of observation, which is to improve the quality of the state budget of income and expenditure more efficiently. One of sector which is being repaired in its spending portion in government spending is infrastructure. For the example is the making of Trans Papua road which is still under construction, this is done in order to make better

the society to do their activities more over for economic activities. It makes the expenditure of government started to rise. From this condition, foreign debt assistance plays important role to achieve the goals of government. As the program is successfully done, the economic increasing and leads to the economic growth which increases as well the foreign debt amount with the same path. This reason is strongly supporting why economic growth is significantly influence government foreign debt.

4. Government revenue is as the part of source of fund for the government in order to achieve their goals. The result of this research is government revenue has negative and significant influence on government foreign debt. The reason is when government revenue is high, government does not need to obtain another source of fund to finance the need of the government itself. It means that government foreign debt is being taken if government revenue is not in the good condition.

Suggestion

1. For Indonesian Government

   a. In this study, when the exchange rate of the rupiah against the US dollar weakened (depreciation), the amount of foreign debt the government will then increase. Therefore, the author suggests to the government to be cautious in carrying out foreign loans when the rupiah exchange rate is weakening as this will have a significant effect on the increase in the amount of foreign debt of the government. In addition, because the rupiah exchange rate continues to weaken against the US dollar in recent time, the authors propose to focus more on the contractive monetary policy of reducing the money supply in the community in

order to strengthen the value of rupiah in the economy. With the strengthening of the rupiah, the burden of the government's external debt is not too heavy to settle each period, which is coupled with the debt interest expense of each period of maturity.

b. As government spending increases, government revenue decreases. The government's external debt also creates a dilemma in the economy. Under these circumstances the researcher suggests the government be more careful in managing the State budget in order to reduce the risk of swelling government spending. Especially with the state budget conditions that are difficult not to deficit due to the incessant development of the State so it is not possible to cut the state budget expenditure directly. To that end, deliberate fiscal policy from the theoretical side is strongly advised, by making simultaneous changes to the system of tax collection to add the portion for government revenue. It is also suggested for changing in expenditure structure in order to reduce the debt rate. Knowing that expenditure recently is spent more on infrastructure, government should allocate the expenditure effectively and wisely in order to not waste the foreign debt fund which becomes higher from time to time. But again, in taking a policy should be more careful and see the conditions from various sides.

c. Economic growth is one indicator of the success or failure of a State in the development of the State. To the authors suggest that the government continues to focus on improving both the quality of both economic growth and foreign debt. Increased GDP is highly recommended to support the sustainability of achieving economic growth targets every year, in addition to this will help

reduce the portion of foreign debt in the burden of expenditures of the next period.

2. For Further Researchers

    The authors suggest the next researcher with the same topic to add more variables and period of research in order to achieve better results.

References

Al-Fawwaz, T. M. (2016). Determinants of External Debts in Jordan: An Empirical Study (1990-2014). *International Business Research; Vol. 9. No. 7.*

Aron, H. H. (2017, September 28). *detikfinance*. Retrieved from detik.com.

Arsyad, L. (1999). *Ekonomi Pembangunan.* Yogyakarta: Bagian Penerbitan STIE YKPN.

Awan, R. U. (2015). An Econometric Analysis of Determinants of External Debt in Pakistan. *British Journal of Economics, Management & Trade.*

Basuki, A. T. (2015). *Elektronic Data Processing (SPSS 15 dan Eviews 7).* Yogyakarta: Danisa Media.

Basuki, A. T., & Yuliadi, I. (2015). *Elektronic Data Processing (SPSS 15 dan Eviews 7).* Yogyakarta: Danisa Media .

Belawi, P. S. (n.d.). Pengaruh Aliran Modal Asing, Hutang Luar Negeri dan Perdagangan Internasional Terhadap Pertumbuhan Ekonomi Indonesia. 45-46.

Boediono. (1999). *Ekonomi Mikro; Seri Sinopsis Pengantar Ilmu Ekonomi; no.1.* BPFE-UGM.

Damhuri, A. F. (2018, Maret 25). *Utang Luar Negeri RI: Kritis atau Baik-Baik Saja?* Retrieved from Republika.co.id: http://m.republika.co.id/berita/nasional/news-analysis/18/0325/p64nu2440-utang-luar-neger-ri-kritis-atau-baikbaik-saja

Devi, S. I. (2017). Pengaruh PDB, Pengeluaran Pemerintah, dan Defisit Anggaran Terhadap Utang Luar Negeri Indonesia. *Mahasiswa Pascasarjana Ilmu Ekonomi, Medan Sumatera Utara.*

Fajriah, L. R. (2016, Maret 22). *Ekonomi Dunia Anjlo, JK Pastikan Penerimaan Negara Meleset.* Retrieved from Sindonews: https://ekbis.sindonews.com/read/1094911/33/ekonomi-dunia-anjlok-jk-pastikan-penerimaan-negara-meleset-1458638196

Finance, D. (2015). *Perjalanan Dolar AS Dari Rp 2.000 Kini Rp 13.300.*

Ghozali, I. (2013). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 21 Update PLS Regresi Edisi 7.* Semarang: Badan Penerbit Universitas Diponegoro.

Gisele Mah, J. M.-P. (2013). The Impact of Government Expenditure on the Greek Government Debt. *Mediteranean Journal of Social Sciences .*

Guritno. (2009). *Ekonomi Publik Edisi Ketiga.* Yogyakarta: BPFE Yogyakarta.

Hapsari, A. H. (2017, Februari 5). *Suara.com.* Retrieved from Suara.com: https://www.suara.com/bisnis/2018/02/05/122230/sepanjang-2017-pertumbuhan-ekonomi-indonesia-cuma-507-persen

Harahap, M. D. (2008). ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI UTANG LUAR NEGERI INDONESIA. *USU e-Repository 2008.*

Hatta, D. (2011). Pengaruh Pendanaan Luar Negeri dan Impor Terhadap Pertumbuhan Ekonomi di Indonesia.

Hidayat, A. B. (2015). Pengaruh Utang Luar Negeri dan Fluktuasi Nilai Tukar Rupiah Terhadap Pertumbuhan Ekonomi Indonesia (Studi Pada Bank Indonesia Tahun 2003-2013). *JAB/Vol. 28 No 2.*

I Wayan Gayun Widharma, I. M. (n.d.). UTANG LUAR NEGERI PEMERINTAH INDONESIA: KAJIAN TERHADAP FAKTOR-FAKTOR YANG BERPENGARUH. *Program Pascasarjana Universitas Udayana, Bali, Indonesia.*

Karimi, Y. A. (n.d.). ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI UTANG LUAR NEGERI PEMERINTAH INDONESIA.

Kompas. (Desember 2017). *Oktober 2017, Utang Luar Negeri RI naik 4,8%.* Jakarta: Kompas.com.

Kompas. (November 2016). *BI: Kondisi Perekonomian Indonesia 2017 mengejutkan.* Bengkulu: Kompas.

Kompasiana. (2014). *Utang Pemerintahan SBY selama 9 Tahun Rp 1.496,12 Triliun, Mengapa rakyat jelata makin susah hidupnya?* Kompasiana.

Kuncoro, M. (2007). *Metode Kuantitatif: Teori dan Aplikasi untuk Bisnis dan Ekonomi.* Yogyakarta: Unit Penerbit dan Percetakan (UPP) STIM YKPN.

Machmud, A. (2016). Perekonomian Indonesia Pasca Reformasi. In A. Machmud, *Perekonomian Indonesia Pasca Reformasi* (p. 304). Bandung: Erlangga.

Mah, G. J.-P. (2013). The Impact of Government Expenditure on the Greek Government Debt. *Mediteranean Journal of Social Sciences Vol 4 No 3.*

Manoppo, V. (2007). Utang Luar Negeri Indonesia (perspektif ekonomi politik). *Journal of Indonesian Applied Economics Vol.1 No.1*, 36-45.

Melani, A. (2017, Agustus 22). *Liputan 6*. Retrieved from Liputan 6: http://bisnis.liputan6.com/read/3066001/pertumbuhan-ekonomi-ri-bakal-51-persen-hingga-akhir-2017

P, D. (2011, November 27). *Duwi Consultant*. Retrieved from duwiconsultant.blogspot.co.id: http://duwiconsultant.blogspot.co.id/2011/11/analisis-regresi-linier-berganda.html?m=1

Pasaribu, R. B. (2012). *Bahan Ajar Ekonomi Pembangunan: Bab 12. Hutang Luar Negeri dan Pembiayaan Pembangunan di Indonesia.* Depok.

Pasaribu, R. B. (n.d.). *Hutang Luar Negeri & Pembiayaan Pembangunan Di Indonesia.*

Prasetya, F. (2012). Bagian V: Teori Pengeluaran Pemerintah. *Modul Ekonomi Publik*.

Prawoto, N. (2009). Dapatkah Bantuan Luar Negeri Mendorong Pertumbuhan Ekonomi? *UNISIA, Vol. XXXII No. 72* .

Rehmat Ullah Awan, A. A. (2015). An Econometric Analysis of Determinants of External Debt in Pakistan. *British Journal of Economics, Management & Trade*.

RI, K. K. (2017). *Kementrian Keuangan RI*. Retrieved from Kementrian Keuangan RI.

Salawati Ulfa, T. (2017). ANALISIS UTANG LUAR NEGERI DAN PERTUMBUHAN EKONOMI: KAJIAN FAKTOR-FAKTOR YANG MEMPENGARUHINYA. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan Fakultas Ekonomi dan Bisnis Unsyiah vol. 2 no. 1*, 144-152.

Saleh, S. (Desember 2008). Faktor-Faktor yang Mempengaruhi Pinjaman Luar Negeri serta Imbasnya terhadap APBN. *UNISIA, Vol. XXXI No. 70* .

Simi, A. B., Suhadak, & Hidayat, R. R. (November 2015). Pengaruh Utang Luar Negeri dan Fluktuasi Nilai Tukar Rupiah Terhadap Pertumbuhan Ekonomi Indonesia (Studi Pada Bank Indonesia Tahun 2003-2013). *JAB/Vol. 28 No 2* .

Sugiyono. (2008). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D.* Bandung: Alfabeta.

Sukanto. (2009). *Ekonomika Publik Edisi Pertama.* Yogyakarta: BPFE Yogyakarta.

Sukardi. (2007). *Metodologi Penelitian Pendidikan.* Jakarta: Bumi Aksara.

Todaro, M. P., & Smith, S. C. (2011). Pembangunan Ekonomi. In M. P. Todaro, & S. C. Smith, *Pembangunan Ekonomi* (p. 136). Erlangga.

wibowo, C. (2012). Analisis Faktor-Faktor yang Mempengaruhi Hutang Luar Negeri Pemerintah Indonesia dari tahun 1990-2009.

Widarjono, A. (2017). *EKONOMETRIKA Pengantar dan Aplikasinya Disertai Panduan Eviews Edisi Keempat.* Ypgyakarta: UPP STIM YKPN.

Widharma, I. W. (2013). UTANG LUAR NEGERI PEMERINTAH INDONESIA: KAJIAN TERHADAP FAKTOR-FAKTOR YANG BERPENGARUH. *Program Pascasarjana Universitas Udayana, Bali, Indonesia volume 02. No 02*.

Yogi Afrianto, E. S. (n.d.). ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI UTANG LUAR NEGERI PEMERINTAH INDONESIA.

Yogi, A. E. (2017). ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI UTANG LUAR NEGERI PEMERINTAH INDONESIA. *Jurnal Ekonomi Pembangunan, Fakultas Ekonomi, Universitas Bung Hatta Vol 10. No 3*.

Yuliadi, I. (2006). ANALISIS HUTANG LUAR NEGERI INDONESIA PENDEKATAN KESEIMBANGAN MAKROEKONOMI. *EKUITAS Akreditasi No 55/DIKTI/Kep/2006*.

Zulham, S. U. (2017). ANALISIS UTANG LUAR NEGERI DAN PERTUMBUHAN EKONOMI: KAJIAN FAKTOR-FAKTOR YANG MEMPENGARUHINYA. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan Fakultas Ekonomi dan Bisnis Unsyiah vol. 2 no. 1*, 144-152.