# Analysis Of Granger Construction Between Debt Sovereign And Gross Domestic Product In Indonesia
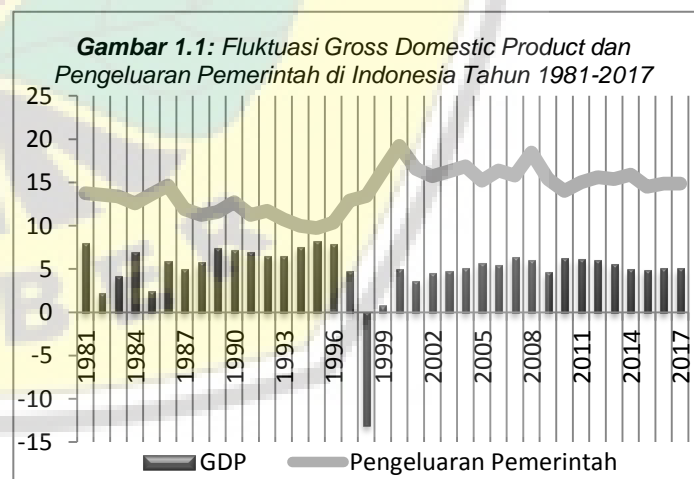
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**Abstract:** One of the indicators of the country's economy can be seen from the success of economic development which can be explained by state income or Gross Domestic Product (GDP) . However, Indonesia as a developing country has a main concept in improving the economy by means of a sovereign debt system, a concept that is believed to be an accelerator capable of stimulating GDP to remain in an ideal position. To find out the influence between sovereign debt and Indonesia's GDP. Quantitative study using Granger Causality method. Indonesian state objects with variables GDP, inflation and government expenditure. The results showed that the equation between GDP and government expenditure significantly had a causality relationship each having a probability value of 0.049 and 0.002. On the other hand GDP and Debt have a causality relationship with a probability value of 0.045.

**Index Terms:** Debt, the concept of sovereign debt, the Indonesian economy, the causality of granger

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## 1. INTRODUCTION

Increasing economic growth is one indicator of the success of economic development (Arestis, 2008; Romer, 2000). Development is a planned mechanism carried out in each country as a form of acceleration for better conditions. The utilization of optimally available resources is believed to be able to improve the quality of welfare of a country (Blanchard, 2008). Adequate funding is needed in meeting government spending in the development of a country sourced from various sources including government, the private sector, and the community. In general, the sources of government funding are constrained by the adequacy in meeting a country's development funding. State income is able to describe the location of debt owned by a country (Aguiar & Amador, 2015). According to Aguir, debt is one of the sources of development funding in achieving a sustainable economic growth, a country's debt movements in line with income. Unlike Todaro (1998) explained that debt is able to become an instrument in overcoming three problems, namely the investment gap, the budget deficit and the current account deficit. The movement of debt will not be in harmony with state revenues. The total amount of loans officially in the form of cash and asset forms can be said to be debt (Fleeson et al., 2017; Hofman, Gooptu, Economist, & Bank, 2002). Figure 1.1 illustrates that fluctuations in Gross Domestic Product (GDP) and government spending tend to have trend a fluctuating. In 1998 the GDP level was at -13 but on the other hand government spending increased. It was motivated by the monetary crisis that hit Indonesia, this phenomenon gave rise to various policies, one of which was to ease the regulation of political economy as evidenced by the issuance of Decree Number XVI / MPR / 1998 as a regulation on Political Economy in order to open foreign investment in the form of debt or bilateral partners / multilateral as a form of capital injection in realizing economic development capital.

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The highest government expenditure is in 2000 which is equal to 19% of GDP. According to the Report (Bank Indonesia, 2010) the highest government expenditure was caused by the high subsidies in the form of both fuel subsidies and non-fuel subsidies with a value of Rp.559,726 billion. In harmony with Harrod-Domar's theory, it is explained that the development financing obtained from debt and aid funds has a positive impact on the economy of a country without causing disruption to future conditions. The assumption used is to assume that debt and aid funds that are used as economic development processes will add productive sources without causing an impact in substitution of domestic relations and do not have a negative impact on the allocation and efficiency of resources in the use of capital.



*Gambar 1.1:* Fluktuasi Gross Domestic Product dan Pengeluaran Pemerintah di Indonesia Tahun 1981-2017
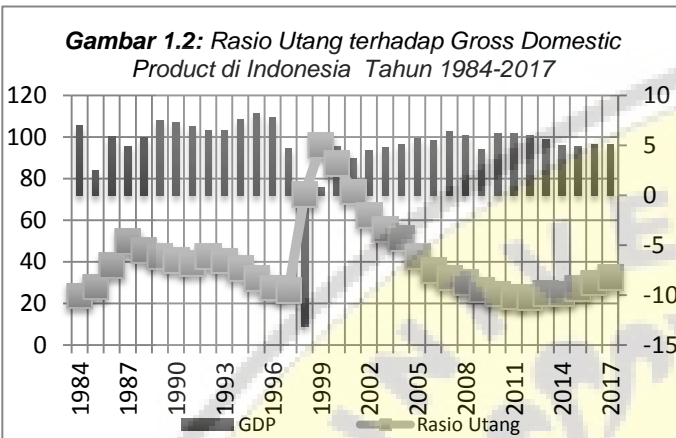
Fluctuations in Interest rates and Inflation tend to have movements in tandem. In line with proprietary research (Sudjarni & Wiradharma A, 2016) explained that inflation and interest rates are interrelated to the influence of a country's financing, inflation refers to the increase in prices of goods and services. While interest rates in Indonesia refer to the interest rate regulated by Bank Indonesia, known as the BI Rate or BI interest rate. The phenomenon that occurs will show the relationship between interest rate and inflation data

for the last 10 years. When interest rates are low, the effect that arises is that the more people borrow money, the more consumption increases because of the money supply, the economy starts to grow, and the further effect is inflation rises. The opposite effect also applies, if the interest rate is high, the money borrower is less. The result is that more people hold back spending, they choose to save. Thus inflation, interest rates and government spending are the main focus as a proxy for macroeconomic variables in relation to debt in Indonesia.



**Gambar 1.2:** *Rasio Utang terhadap Gross Domestic Product di Indonesia  Tahun 1984-2017*

Seen in Figure 1.2, the lowest ratio between 1984 and 2017 was in 2012, which amounted to 22.9% of GDP which was divided into the ratio of Foreign Debt of 27.41% and Central Government Debt ratio of 23% of GDP. In 2012 amid a crisis and a slowdown in the world economy, Indonesia economic growth throughout 2012 grew in range a goodof 6.23%, offset by a debt ratio of 22.9% Indonesia's economic resilience at a safe point (Ministry of Finance Report, 2012 ) This was supported by macro stability and the financial system which was able to strengthen the domestic demand base. In terms of usage, the low debt ratio was driven by the use side, namely the level of strong household consumption and increased investment. Whereas in 1999 it was the year with the highest ratio of 95.8% of GDP, this figure being the highest in the history of the Indonesian economy (Ministry of Finance: 2000). In 1999 various political phenomena affected the Indonesian economy. One of them is the presidential change in 1999 The Ministry of Finance's Financial Report (1999) revealed that the government expenditure budget was significantly increased compared to the previous year which was Rp.16.32 Trillion which was dominantly sourced from Debt. In the 1999 budget year was marked by prolonged monetary and seasonal turmoil, but in the state of the national economy it can still be maintained thanks to the development results as evidenced by a GDP increase of 0.7% accompanied by the achievement of inflation which could be reduced to 7.9% this figure is far lower than the previous year (Financial Note and RAPBN 1999 Report).

## 2. LITERATURE REVIEW

Capital and savings have an important role in driving the economy of a country. The relationship between capital and economic growth can be explained in the Harrod-Domar model (1940) as follows:

$$g = sv - d$$

The equation above explains that an increase in economic growth is in line with an increase in capital / savings (s), because capital is the main element in investment expected to drive the economy of a country. Conversely, economic growth has a negative relationship with incremental capital output ratio (ICOR) / (v). In this case, ICOR shows how much additional capital (investment) is needed to increase / increase one unit of output. The increase in ICOR indicates that the economy is increasingly inefficient, because the capital needs (investment) needed are increasingly large to produce an additional unit of output. Depreciation (d) as an indicator of decreasing the value of an item / asset will have an impact on reducing the rate of the economy of a country. Based on the background of the problem formulation above, the problem to be identified is to find out the relationship between the influence of sovereign debt and GDP in Indonesia. Alam and Taib (2013) found that budget deficits, current account deficits, inflation, interest rates and values exchange affects significantly the depreciation of external public debt. Therefore, State policy makers must consider these factors when making decisions about external loans. Sotocinal (2015) found that fiscal policy is only effective in short term, because the impact can cause an increase in interest rates. Therefore, management requires effective macro-economic policy coordination between the monetary authority andn. fiscal  Parayno and Saeed (1993) stated to reduce the level of debt through decline the need for foreign loans, it is not necessary to eliminate a country's debt burden. Wrong one example of this policy is to limit demand by reducing rates growth, general targets and government spending in particular. Agnello and Sousa (2015) found that financial sector policies were less stringent at increasing rates growth of public debt.

## 3. RESEARCH METHOD

This study uses secondary data. The method of data collection is based on various related institutions including the World Bank, International Monetary Fund, Committee on Electronic Information Communication (CEIC), Asian Development Banking,  Bank Indonesia, Ministry of Finance and several other library materials as literature from books relating to research . Data collection includes economic indicators as influencing candidates target research variables and refers to several previous scientific research journals. In addition, the data obtained for research also comes from other credible sources both in the form of publications and online sites. The data used are secondary data with the type ofdata time series quarterlywith a time span from 1998Q1 to 2017Q4. Determination of time vulnerability used as the object of this study is determined by the availability of data for each variable that is considered capable of describing and explaining changes in economic phenomena that are related and affect the research context. The assumption of research can be interpreted as a focal point of research that provides direction in the processing and interpretation of data, so as to minimize errors. This study uses the following assumptions:

**Research only includes:**
a.    Debt Fluctuations,,
b.    Indonesian economic growthIndonesian
c.    inflation,
d.    Debt interest rates,
e.    DSR Indonesia,
f.    GDP level used in this study is GDP growth per year,

g.   The inflation rate used in this study is based on consumer price index (CPI).

h.   Interest rates are used in this study on debt interest rates.

**Hypothesis**

The research hypothesis is a temporary answer to research questions based on previous theories and empirical research. Based on empirical theory, mentioning that the concept of budget deficits that occur in the economies of developing countries such as Indonesia, will have an impact on the pace of the country's economy indirectly, which is reflected by shocks that occur in the country's macroeconomic variables. In this study, the macroeconomic variables used are Debt, GDP, inflation, debt interest rates and DSR, so the research hypothesis is obtained as follows:

1.   Debt is positively related to GDP
2.   Public sector debt has a negative impact on GDP in Indonesia

**Methodology**

in determining model specifications, the author adopts a model made by Pesaran et al (2004). The model specifications are considered capable of representing the model specifications in this study because they are in accordance with the prescribed research assumptions. In this study using Debt dependent variables and then GDP as independent variables, namely as follows;

$$y1.t=1.1+I = 1mly11.1.IY1, tI+I = 1mIx11.1.IX1, tI+1.1.t \quad (3.3.1)$$

Based on previous research, this study functions:

$$Debt = f (Inf, i, LogGDP, and ExpG Log) \quad (3.3.2)$$

Furthermore, the econometric model is derived, as follows:

$$Debtit=0i+1iinfit+2iInterestit+3iLogGDPit+4iLogExpG +et \quad (3.3.3)$$

Description:

| | |
|---|---|
| DebtDebt | =Level |
| DSR | = Debt Service to Ratio |
| infit | = Price level or inflation |
| Interestit | = Interest rate |
| GDP | = Gross Domestic Product |
| ExpG | = Government Expenditures |
| et | = error term |
| 0i, 1i, 2i, 3i, 4i | =Parameters |

## 4.   RESULT

The Indonesian economic system in the aspect of development applies a concept of a budget deficit (Ministry of Finance, 2000). One of the financing of Indonesia's development is supported by state debt, this is known as sovereign debt. In line with Harrod-Dommar's Theory which explains that capital is the main thing that becomes the accelerator of the country's economy and debt becomes an instrument that is able to become capital in the state's development, assuming the precautionary concept. The results showed that in Indonesia significantly the Debt and GDP variables had a causality relationship, where debt moves ahead of GDP. This is in accordance with the theory described by Harrod-Dommar before.

*Tabel 1. Hasil Uji Kausalitas Granger*

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|---|---|---|---|
| EXPGOV does not Granger Cause GDPRIIL | 28 | 2.99535 | 0.0698 |
| GDPRIIL does not Granger Cause EXPGOV | | 4.01064 | 0.0320 |
| UTANG does not Granger Cause GDPRIIL | 28 | 1.11878 | 0.3438 |
| GDPRIIL does not Granger Cause UTANG | | 0.24445 | 0.7851 |
| INF does not Granger Cause GDPRIIL | 28 | 19.8236 | 1.E-05 |
| GDPRIIL does not Granger Cause INF | | 7.63938 | 0.0029 |
| UTANG does not Granger Cause EXPGOV | 28 | 2.01282 | 0.1565 |
| EXPGOV does not Granger Cause UTANG | | 1.06917 | 0.3597 |
| INF does not Granger Cause EXPGOV | 28 | 8.62601 | 0.0016 |
| EXPGOV does not Granger Cause INF | | 1.01190 | 0.3791 |
| INF does not Granger Cause UTANG | 28 | 0.19129 | 0.8272 |
| UTANG does not Granger Cause INF | | 0.99656 | 0.3845 |

The Harrod-Domar theory is the basis for exposing the sovereign debt, explained that financing a development sourced from debt and aid funds will have a positive impact on the economy of a country without causing future problems assuming that it is used as economic development in the source productive (Abdullahi et al., 2016; Kuncoro, 2000 ; Saxena, 2002). Based on the Indonesian State Financial Regulation No. 187/2003, the level of the debt deficit is 3% of GDP or 60% of GDP. The results show that debt has a positive relationship with GDP, meaning that the ideal debt will have a positive impact on the movement of GDP. While high GDP does not have a negative impact on debt movements.

## 5.   CONCLUSION

Thus there are several things that are the main focus, namely;

1.   Debt is indicated to have a positive contribution to the Indonesian economy through the GDP variable, assuming that debt is for the productive sector.
2.   The results of the study show that the movement of GDP does not have an impact on debt movements, other than that it is based on the concept of the budget used, namely sovereign debt.

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