

## THE IMPACT OF FISCAL POLICY CREDIBILITY ON THE INTEREST RATE: THE CASE OF INDONESIA

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### ABSTRACT

*The objective of this paper is to investigate whether the effects of fiscal policy credibility, in the form of deficit rule, debt rule, discretionary, and openness, can affect the stability of interest rates. The main motivation behind this research is on the one hand, the credibility of fiscal policy has an influence on interest rates. To test the hypotheses, we use quarterly data in the case of Indonesia during the period of 2001 (1) -2013 (4). This research applies the ARDL (Auto Regressive Distributed Lag) model in the case in Indonesia. The result shows the debt rule is credible and has an impact on the interest rates in the long term. The short-term discretionary policy tends to increase the interest rates. The openness will also increase the interest rates in the long-term. It seems that the behavior of interest rates tend to be persistent. The economic implications of these findings, if the debt can be realized closely to the planned debt, the deviation will be small then interest rates will stabilize. Regarding to the trade openness, the government has to intervene in order to reduce the volatility of interest rates.*

Key words: deficit rule, debt rule, discretionary, openness, interest rate

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### Introduction

In the public economics, fiscal rules have been received considerable popularity in various parts of the world. Initially, driven by high budget deficits in the 1970s, as many as 87 states currently have enacted fiscal rules (IMF, 2013). Fiscal rules have a purpose that is trying to give credibility to the implementation of macro-economic policies by removing interventions that are discretionary (Kopits, 2001).

The global financial crisis that occurred in mid-2008 provides some challenges to both the rules of the policy. The fact remains that many developing countries and developed countries experiencing high budget deficits and public debt is not sustainable. Unsustainable fiscal positions have a negative impact on market interest rates so that the next impact is the increase in inflation expectations and ultimately, inflation itself (Mankiw, 2013).

The credibility of fiscal policy has been widely touted as one of the most important fundamentals of macroeconomic policy. In general, it can be widely accepted that government with a strong reputation and take fiscal prudence should not be limited by the rules. However, the magnitude of the fiscal imbalance that is often repeated reflect a lack of fiscal discipline (Woo, 2006). Lack of fiscal discipline generally derived from the use of discretionary fiscal policy.

Discretionary policy is able to respond to unexpected shocks, however, discretionary policy can also be a target, so the deficit continuous and pro-cyclical policies, rising debt levels over time, and loss of credibility due to the volatility of fiscal policy (Kumar and Ter-Minassian, 2007). Finally, if risks regarding the future direction of fiscal policy is greater, and if there is no credibility, fiscal policy becomes unsustainable will impact on confidence in the government.

The adoption of fiscal rules is supported by various schools of thoughts. The (Neo) Classical paradigm advocates the importance of fiscal rules that primarily aim at restricting government spending, budgetary deficits, and government debt in order to safeguard fiscal sustainability. The (Neo) Classical paradigm argues that those restrictions are necessary condition to avoid crowding-out effect.

The (New) Keynesian school of thought believes the existence of crowding-in effect induced by budgetary deficit and government debt. Therefore, the (New) Keynesian paradigm emphasizes that fiscal rules primarily aim at stabilizing macroeconomic fluctuations. These fiscal rules are guided by short-run (New) Keynesian principles of fiscal management (Marneffe et al., 2011).

The case of Indonesia, the domestic debt has been higher than the foreign debt. That can be categorized as (Neo) Classical paradigm. In such a paradigm, the private investment will be crowded-out by public investment.

The impact of fiscal policy on interest rates is very important for us to know. The first, interest rate is the indicator of the stability of financial markets. In Indonesia, printing money to finance government spending is not allowed then to be able to finance government spending by borrowing through the financial markets, in the money market each loan will be charged interest rate as the price of money. So the demand for money will affect interest rates.

Second, the impact of fiscal policy on long-term interest rate, On the impact of fiscal policy, it was found that when the expanding fiscal deficit of 1 percent, the long-term interest rates increased between 10 and 12 basis points. Impact of public debt on long-term interest rate depends on the volatility of macroeconomic and nonlinearity in debt levels. Increased 1 percent in the output gap resulted in an increase in long-term interest rates in almost 20 basis points. Increased 1 percent in the long-term interest rates raised the long-term interest rates at 26 basis points. Finally, increased 1 percent in the primary fiscal deficit expands the long-term rate of between 10 and 12 basis points. So that the fiscal importance in ensuring the long-term that interest rates lower (Lopez et al., 2011).

Third, fiscal policy is closely related to government spending, the increase in government spending causes interest rates to rise. With interest rates higher will reduce investment spending.

There are several factors that affect interest rates one of which is the government budget deficit is characterized by government expenditure more than income, which means government did borrowing and impact on increased interest rates (Madura, 2003). Government budget deficits on related with public debt, which the government tried to balance the budget expenditures and revenue with the public debt, and borrowing by the government will affect the price of money is shown in interest rates. So that the public debt carried by the State in order to cover the budget deficit will affect interest rates.

The budget deficit reflects the purpose of the credibility of the government's fiscal policy in managing income and expenditure state, government requires the government's fiscal credibility as a regulator of economic stability. Economic stability seen from the interest rate which is a burden on investment, the high deficit will trigger an increase in the demand for money by the government in order to stabilize the economy, then impact on increasing interest rates.

Research about the impact the credibility of fiscal policy on interest rates is important to discuss because it can determine the extent to which the credibility of fiscal policy affect the price of money is shown through the interest rate. Then, with information on the stability of interest rates, the government may provide a signal to the market to support the goal of macroeconomic policy in general and fiscal policy in particular.

This research examines the impact of the credibility of fiscal policy on interest rates with a focus on Indonesia. It was alleged that the credibility of fiscal policy has an influence on interest rates. The study is organized as follows. Section 2 discusses the theoretical and empirical literature on this area. The methodology and data is presented in section 3. The empirical results are discussed in section 4 and the last section delivers the concluding remarks.

## **Literature Review**

In the theoretical strand, according to the most widespread definition, fiscal policy rules set numerical targets for budgetary aggregates. More specifically, they pose a permanent constraint on fiscal policy, expressed in terms of a summary indicator of fiscal outcomes, such as the government budget balance, debt, expenditure, or revenue developments (Kopits and Symansky, 1998).

The point of view of institutional economics, the main purpose of the first fiscal rules is to improve budget discipline; it can also encourage the coordination of policies between different levels of government depending on their institutional coverage. Rules are usually aimed at correcting fiscal incentives distorted and containing pressures to overspend, especially in good times, so as to ensure fiscal responsibility and debt sustainability.

According to the Classical models fiscal policy only increases interest rates and does not cause a change in national income. The increase in interest rates did not causes the increase of the national income is called crowding out is a process in which the economy followed by a rise in government spending slump in private investment was caused by higher interest rates. In conditions of crowding out the full aggregate expenditure unchanged despite increased government spending, but investment is reduced (Mankiw, 1997).

In the Keynesian models also noted that fiscal policy can alter the composition of the aggregated demand. If the government implements the budget deficit rules, a number of financing will be met by the issuance of bonds, so that the government competes with the private sector to obtain public funds. This will raise interest rates and allow the "crowding out private

investment. Finally, fiscal expansion is compensated by additional borrowing, causing interest rates to rise higher and further reduce investment.

Neo-classical models of discussing the effects of fiscal policy on the supply side, but there are some characteristics of this model which has implications for the demand. If consumers oriented to the future and are very conscious about the government's inter-temporal budget constraint, then the consumer predicted that tax cuts will now be financed through debt by the government. As a result the future imposed higher taxes. This argument is known as Ricardian equivalence (Barro, 1974).

The taxes and public debt according to Ricardian equivalence are neutral. The perfect Ricardian equivalence showed that the reduction in government savings as a result of the tax cuts will be offset by higher private saving, and aggregate demand is not affected.

Abduruohman (2013) investigated the practical behaviour of fiscal policy in Indonesia in response to economic cycles to establish whether it follows general fiscal wisdom or amplifies the cycle. He showed that fiscal policy in Indonesia tends to be pro-cyclical. Surjaningsih et al. (2012) concluded that the absence of discretionary fiscal policy made by the government. Unfortunately, they did not explore further the volatility of fiscal policy.

Discretionary fiscal policy has contributed significantly to economic stability (Auerbach, 2002). Then discretionary policy of reducing taxes or increasing spending can actually depress economic activity (Giavazzi et al., 2000).

The tax cuts would tend to increase budget deficits and thus increase government debt. That gives the government a higher incentive to inflate the economy. The taxes have no effect on labour supply, but instead generate tax collection costs. In that environment, tax cuts are expansionary because they increase debt and through inflation expectations (Eggertsson, 2009).

Gale and Orszag (2003) argue that there are two important reasons for why budget deficits may raise nominal interest rates: (i) public deficits reduce aggregate savings when private savings do not increase by the same amount (i.e. in the absence of Ricardian equivalence) and there are no compensating foreign capital inflows, therefore, leading to a decrease in the supply of capital; and (ii) deficits increase the stock of government debt and, consequently, the outstanding amount of government bonds (relative to other financial assets). In this case, there is a "portfolio effect", as a higher interest rate on government bonds would be required in order to incentive investors to hold the additional bonds.

According Krtalic and Benazic (2010) there is negative relationship between fiscal deficit and private sector investment and it is possible to conclude that an increase in the budget deficit has multiple negative effects on economy, primarily in the form of rising interest rates which increases the borrowing costs of other economic sectors, i.e. enterprises and households. Higher borrowing costs ultimately lead to their exclusion from the market. The results indicate that consumer prices have affected the variability of interest rates with 29 percent after twelve months, while the central government budget deficit affected the variability of interest rates with 10 percent after twelve months. In the next section, we examine empirically whether the credibility of fiscal policy significantly affects the interest rate.

The evidence shows that large deficits and debt can have a marked adverse impact on implicit real interest rates, but that a variety of domestic and international factors are likely to determine the magnitude of this impact. They are quite vulnerable. However, they can systematically explain well the implicit real interest rates. On the other hand, a budget consolidation that predominantly relied on tax increases, or on modest and gradual measures – even it was successful and led to lower deficits and debt levels – did not have an influence on interest rates (Kuncoro, 2011).

## Research Method

As noted by Bova et al. (2014), a fiscal rule, however strong, cannot substitute for commitment to comply with the rule, which is largely a political factor, and as such hard to measure. Establishing a direct link between the rule and a given outcome is equally challenging, as the outcome may be due to a host of other factors, some difficult to observe. And even if a link is found, it may be impossible to determine the direction of causality (fiscal discipline may have led to the establishment of the rule, rather than the other way around).

Moreover, in characterizing fiscal policy volatility, it is also hard to distinguish fiscal policy volatility from structural fiscal policy volatility. The former refers to variability in fiscal policy, while the latter refers to changes in policies such as product market regulations, trade taxes, regulatory trade barriers, and credit and labour market regulations (Sahay and Goyal, 2007) which often inherently include in the earlier. All these problems are compounded in the case of developing countries, given limitations regarding the length and reliability of data series and the likely existence of structural breaks.

To avoid those problems, we make some adjustments. First, we take into account government consumption expenditure as main representation of fiscal policy. Second, we choose the sample periods when the political circumstance is not highly fluctuated. Three, as a consequence, we do not explicitly incorporate the political factors rather we assume that the state budget is an optimal resultant of the political process. It means that the fiscal policy credibility could have been captured them. Forth, unlike Brzozowski and Siwinska-Gorzelak (2010) and Tapsoba (2012) that used dummy variable to cover deficit rule and debt rule, we measure quantitatively the deficit rule and debt rule credibility respectively. The details are explained as follows.

Following Aizenman and Marion (1991), the unexpected effect of fiscal policy can be calculated by fitting a first-order autoregressive process and  $\rho$  is best estimated by omitting the output variable such that:

$$\Delta \text{Log Gt} = a + \rho \Delta \text{Log Gt-1} + \varepsilon t$$

Furthermore, according to Fatás and Mihov (2003), the term of  $\varepsilon$  in those equations above is a quantitative estimate of the discretionary policy shock in government spending. We also extract the unsystematic component of government expenditure as measure to identify the power of discretionary fiscal policy:

$$Z_3 = \varepsilon t$$

Furthermore, budget deficit is the difference between government revenue and government expenditure. This applies for the actual (subscript A) and the planned (subscript P) budgets:

$$\text{Def}_A = \text{Rev}_A - \text{Exp}_A$$

$$\text{Def}_P = \text{Rev}_P - \text{Exp}_P$$

In short, fiscal policy is said to be credible if there is a little difference between actual and projected fiscal measures (Naert, 2011). Therefore, the ratio of the actual deficit to the planned deficit represents the deficit policy credibility.

$$Z_1 = \text{Def}_A \div \text{Def}_P$$

The accuracy of deficit rule policy is indicated by a score of 1. If the deficit budget realization in the current period is less than what has been targeted before, the budget deficit credibility index would be indicated less than 1. Meanwhile, if the budget deficit realization exceeds the projected figures, the index will be more than 1.

The similar idea is applied for debt because debt is a legacy of past deficits. Unfortunately, neither flow nor stock of the planned debt for each year in Indonesia is unavailable. Hence, we estimate the projected total debt level using HP filter procedure. The difference between the actual debt stock and the projected debt stock level indicates the debt rule policy credibility.

$$Z_2 = \text{Debt}_A \div (\text{Debt}_P)_{\text{HP}}$$

$$\text{Openness} = (\text{EX} + \text{IM}) \div Y$$

Where EX is export and IM is import values respectively.

The interest rates in percent and has adjust the data, so that data in the same execution with the data Z1, Z2hp, Z3, and Openness. Similarly, the model that we will use in this research;

$$r = a + b_1 Z_1 + b_2 Z_1(t-1) + b_3 Z_2\text{HP} + b_4 Z_2\text{HP}(t-1) + b_5 Z_3 + b_6 Z_3(t-1) + b_7 \text{Openness} + b_8 \text{Openness}(t-1) + b_9 r(t-1) + e$$

The research applies the ARDL model. Where is the credibility of fiscal policy by using models (Z1) is deficit rule, (Z2HP) is a debt rule and credibility views of discretionary (Z3), and openness of the real sector (exports and imports). Research include also the previous year, so that this model describes the research model by looking at the short term and long term by entering (t-1), which means the condition earlier.

The sample periods chosen for this study extend from 2001(1) to 2013(4). The total observation operationally is 52 sample points. Most of the data are publicly available in quarterly. Even the debt data are published in monthly basis. Unfortunately, both the planned budget and the actual budget data are available only in annual basis. We interpolated linearly them into quarterly in order to fit to the other data. Then the data presented is data SBI rate and JIBOR by taking the data at the end of each period by three months (March, June, September and December).

Most of the data are taken from the central bank of Indonesia ([www.bi.go.id](http://www.bi.go.id)) and Central Board of Statistics ([www.bps.go.id](http://www.bps.go.id)). The total debt (summation of domestic and foreign debts) in domestic currency comes from Debt Management Office ([www.djpu.kemenkeu.go.id](http://www.djpu.kemenkeu.go.id)). All of the variables are stated in 2010 base year (2010 = 1) using GDP price deflator. Most of the results are calculated in econometric program eviews 8.

## Results and Discussion

In Figure 1 give to explanation that the policy deficit rule has a steep path at the start of 2001. This was caused by the deficit not in accordance with the planned deficit rule. Furthermore, the increase in debt occurred in 2009, in this case the government to finance state expenditure by increasing debt, this happens because of the effect of rising oil prices and government subsidies increase the amount to cover the gap between world oil prices with oil prices in Indonesia.

Figure 1: Deficit rule and debt rule

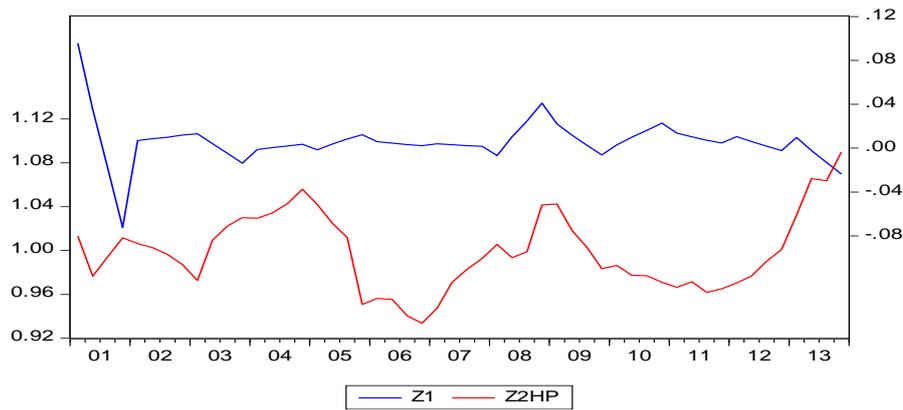


Figure 2 shows a model of Openness showed an increase in export volumes. Then the figure shown changes in volatile in discretionary. In 2009 through 2013 showed a sharp decline. In 2009 the central government issued a more government expenditure because in 2009 there was a global financial crisis, the funds are used for subsidies. In 2009 the government gives stimulus to the model same with 2004, government revenue contracted by 1.62 percent of GDP and government spending contracted 2.36 percent of GDP with a total effect of fiscal policy contraction of 0.74 percent of GDP. The fiscal impulse calculation results indicate that giving substantial fiscal stimulus in terms of income and expenditure in 2009 did not result in expansion effect.

Figure 2: Openness and discretionary

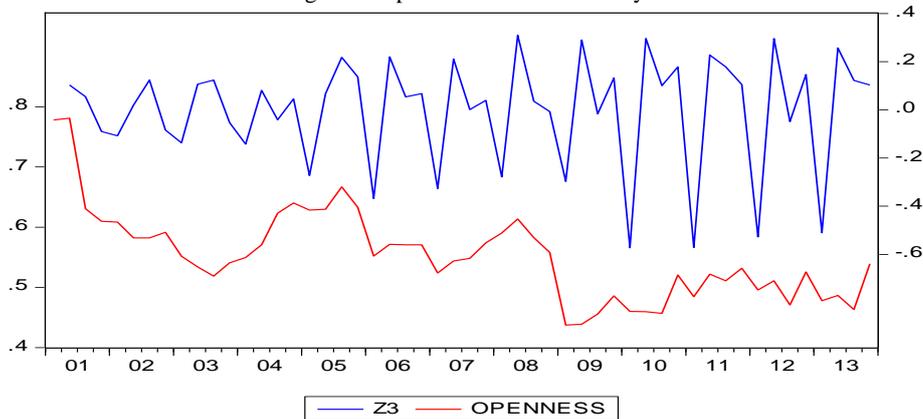


Figure 3 describes the changes in interest rates. In 2001 showed the highest interest rate. then declined until 2013 as a result of the financial crisis that occurred in Indonesia, during the monetary crisis in 1997, banks lost confidence, so many customers withdrew funds in the bank, so the impact on increase in interest rates, finally, after the monetary crisis, Indonesia began to rehabilitate those with evidenced impact of decrease in interest rates.

Figure 3: Interest rate

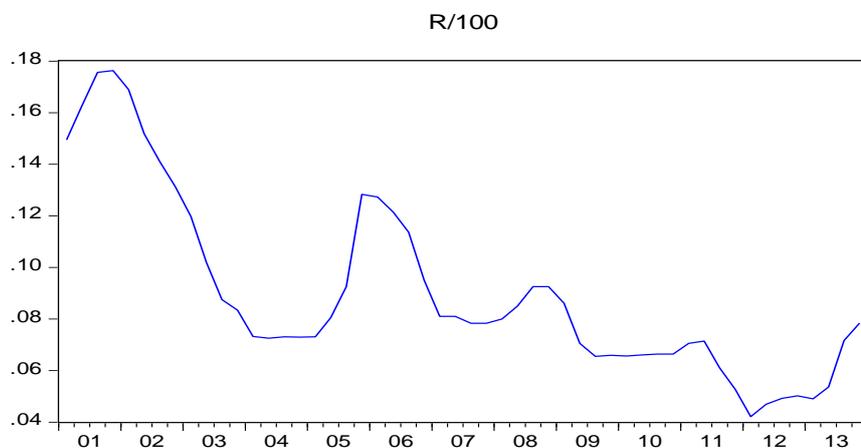


Table 1 presents the elementary statistics covering mean, median, and extreme (maximum and minimum) values for variables of interest. The average value of the interest rate by fiscal policy models (Z1, Z2HP, Z3, and Openness) are not close to each

other's. Each the median value is close to the respective mean (particularly Z1, Z2HP, and Openness). The closeness of the median to the mean value preliminary indicates that all of the variables of interest are normally distributed. Unless Z3 where the mean value is greater than the median.

The symmetrical distribution of the five variables is confirmed by the moderate value of skewness. The skewness measures the symmetric or normal distribution which the value is expected to be zero. The skewness values for Z1 and Z3 variables are slightly lower than 0 indicating that the series are skewed to the left. In contrast, the skewness values for interest rate, Z2HP, and openness are greater than 0 indicating that the corresponding series are skewed to the right; the upper tail of the distribution is thicker than the lower tail.

Furthermore, the deficit policy credibility (Z1) has the greatest value of kurtosis. The kurtosis measures the peakedness of flatness of the distribution with an expected value of 3.0. Most of the kurtosis values of the series are more than 3. The result shows that interest rate, Z1, Z3, and openness series have kurtosis value exceed 3 implying that the tails of the distribution are thicker than the normal (i.e. leptokurtic).

Table 1: Descriptive statistics of fiscal policy credibility and interest rate

	R/100	Z1	Z2HP	Z3	OPENNESS
Mean	0.0890	0.0041	0.9987	0.0000	0.5491
Median	0.0784	0.0041	0.9943	0.0542	0.5482
Maximum	0.1763	0.0410	1.0899	0.3099	0.7810
Minimum	0.0421	-0.0723	0.9338	-0.5730	0.4375
Std. Dev.	0.0345	0.0157	0.0348	0.2284	0.0674
Skewness	1.1159	-1.9938	0.4208	-1.0462	0.6611
Kurtosis	3.4209	12.7297	2.6839	3.4407	4.1182
Jarque-Bera	10.9616	234.9587	1.7180	9.7174	6.3724
Probability	0.0041	0.0000	0.4235	0.0077	0.0413

Before analyzing further the result, co-integration test is necessary. The result of co-integration bound test is presented in Table 2. The ARDL bound test is based on the Wald-test. The asymptotic distribution of the Wald-test is non-standard under the null hypothesis of no co-integration among the variables. The Wald test (F and  $\chi^2$  statistics) is computed to test the null hypothesis, Ho: there is no co-integration against the alternative hypothesis, Ha: there is co-integration for the corresponding models.

The test for interest rate equation does not fail to be co-integrated. All of the long-run coefficients (the lagged variable) significantly do not equal to zero. The statistical test values fall outside the upper bound in the lower probability value. It means that the null hypothesis of no co-integration is rejected suggesting the presence of co-integrating relation. In other words, all of those variables in each model are said to be co-integrated and, consequently, those series tend to move towards the equilibrium relationship in the long-run.

Table 2: Bound test of co-integration

Wald Test:			
Null Hypothesis: C(3)=C(5)=C(7)=C(8)=0			
Test Statistic	Value	df	Probability
F-statistic	135.0319	(4, 42)	0.0000
Chi-square	540.1275	4	0.0000
Restrictions are linear in coefficients.			

Table 3 reports the results of the estimation using ARDL models (Auto Regressive Distributed Lag) that uses variable, Z1 (Deficit Rule), Z2HP (debt rule), Z3 (Discretionary), and Openness by entering the previous year, so this model depicts the research model see short-term and long-term by entering (t-1), which means the condition earlier. ARDL model estimation results show the following results.

Table 3: Estimation results of fiscal policy credibility and interest rate with ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.0602	0.0365	-1.6464	0.1075
Z1	-0.1264	0.0809	-1.5626	0.1260
Z1(-1)	-0.0613	0.0916	-0.6688	0.5075

Z2HP	-0.1026	0.0664	-1.5464	0.1299
Z2HP(-1)	0.1355	0.0707	1.9172	0.0624
Z3	0.0130	0.0063	2.0465	0.0473
Z3(-1)	0.0039	0.0053	0.7404	0.4634
OPENNESS	-0.0419	0.0411	-1.0207	0.3135
OPENNESS(-1)	0.1251	0.0395	3.1639	0.0030
R(-1)/100	0.7857	0.0435	18.0512	0.0000
R-squared	0.9570	Mean dependent var		0.0875
Adjusted R-squared	0.9474	S.D. dependent var		0.0332
S.E. of regression	0.0076	Akaike info criterion		-6.7385
Sum squared resid	0.0023	Schwarz criterion		-6.3561
Log likelihood	178.4626	Hannan-Quinn criter.		-6.5928
F-statistic	99.1167	Durbin-Watson stat		1.0493
Prob(F-statistic)	0.0000			

The estimation results with models Auto Regressive Distributed Lag (ARDL) produce that model of Z1 (deficit rule) long-term (Z1 (-1)) and short-term results did not show significant because the probability is greater than the specified alpha. So that the increase of 1 percent deficit rule in the long term or short term is not followed by interest rate stability, because the results were not significant. So this causes that tendency in applying fiscal discipline rules short- and long-term the goods market does not have the influence on interest rates. The previous research was not showed that deficit rule affects the stability of interest rates.

Furthermore, the effect deficit on increase in loans by the government to the private sector in the form bonds. Consequently, the government should allocate considerable funds to pay interest that debt will reduce the government's fiscal capacity to fund the construction. The model of deficit rule which a concern about crowding out. The investment dropped that the impact on economic growth. The deficit is not necessarily a bad thing. When the economy goes into recession, deficit spending through tax cuts or increased government expenditures through stimulus packages (such as the purchase of goods and services by the government) can stop the economic constraints and recover the economy directly. Thus, the budget deficit can help to stabilize the economy. After the economy stabilizes, it will increase business prospects that have an impact on increased investment. This effect is known as crowding in. In addition, the budget deficit can also be used to fund the construction of infrastructure that can promote economic growth and increase tax revenues and increase the government's ability to pay debts (Sujai, 2014).

In these discussions we analogy using the IS curve. Because this study are in the real sector is on the market goods with the IS curve. When the government raised government expenditure, then the IS curve will shift, this occurs because of the sector will stimulate goods market. Representation of the increase in government expenditure by shifting the IS curve for interest rates to increase. Then the government to raise taxes to fund government expenditure, with tax rates that rise, it will have an impact on the IS curve shifting from upper right to lower left. Then Indonesia can be considered as typical of developing countries is viewed through Pigou effect, which started in the price of the goods if the price of goods down, it will cause an increase in consumer purchasing power in this case public consumption will increase, and the impact on the aggregated demand also increased, Shifting the IS curve as a representation of increase in interest rates.

Then with the models debt rule (Z2HP) to interest rates result that of long-term debt rule has a significant influence on interest rates with the 10 percent alpha explained that of long-term debt rule will increase interest rates by 13 percent. It shows that with the high debt rule in the long term will increase interest rates, so that the government's behaviour in the long term is not consistent effect on the goods market shown increase in interest rates in the goods market. In the case of Indonesia, the cost of domestic debt is higher than the cost of foreign debt. The evidence shows that large deficits and debt can have a marked adverse impact on implicit real interest rates, but that a variety of domestic and international factors are likely to determine the magnitude of this impact. They are quite vulnerable. However, they can systematically explain well the implicit real interest rates. On the other hand, a budget consolidation that predominantly relied on tax increases, or on modest and gradual measures – even it was successful and led to lower deficits and debt levels – did not have an influence on interest rates (Kuncoro, 2011).

Furthermore, the foreign debt cost less than the domestic debt cost in the case of Indonesia. So, the foreign debt can increase economic growth. In this study it was found that long-term debt rule in Indonesia will increased interest rates, it means a large deviation of actual debt rule with planned debt rule. Indonesia, in 2012 the amount of financing government expenditure on interest payments on domestic debt amounted to 84.75 billion while interest payments on foreign debt amounted to only 33.03 billion, this proves that the government in financing the budget deficit more through domestic debt, it is point of view neoclassical will have an impact on crowding out, where government issued bonds to fund budget deficit, but this will increase the interest rates higher, so that private investment will decrease and the impact to decreased economic growth, so that in the long term will have an impact the workforce reduction. The case in Indonesia, payments deficit on foreign debt in the new era governance experienced, it marked the debt financing for the construction of a five-year term. In this case Indonesia experienced rapid economic growth, but the crisis of 1998 makes Indonesia collapsed this is caused because of financing development through foreign debt is very large, in some cases in Indonesia financing with the foreign debt is very large also will have a negative impact, especially on Indonesia's economy.

The third model is discretionary (Z3), the discretionary is policy that was taken at the time of particular situation, discretionary is a free rule, unpredictable, where the decision-making due to particular situation. The findings suggest short-term discretionary is significant, this shows that the probability is smaller than alpha it is means that policy taken by the government to certain

conditions without any prediction or planned. The estimation results indicate that the long-term discretionary (Z3 (-1)) was not significant, it is proved that discretionary issued when the situation is unpredictable. Furthermore ARDL model also proved that every 1 percent increase in short-term discretionary will be followed by increase in interest rates by 1 percent as well. So the short-term discretionary taken by the government are not helped stabilize interest rates. In contrast with previous findings discretionary fiscal policy has contributed significantly to economic stability (Auerbach, 2002). Then discretionary policy of reducing taxes or increasing spending can actually depress economic activity (Giavazzi et al., 2000).

Furthermore, the results of the estimation with ARDL model shows that the model of long-term openness affect interest rates, is shown with a smaller probability value of alpha that has been set. The findings by using a model Openness in the short-term shown coefficients negative -0.0419 and not significant. It shows that the short-term openness not correlated with interest rates. But unfortunately findings in ARDL models show a result is not significant so as not to affect interest rates. Then the next result by viewing long-term openness shows that the increase in long-term openness in the goods market may increase the interest rates. The higher level of openness in the real sector in the long term would increase interest rates. The government has to intervene in order to reduce the volatility of interest rates.

The previous findings indicate that the Financial Openness does not play an important role in determining real interest rates and allows that trade openness is better at playing a role in determining the interest rate. The findings were performed by the selection of the two countries and two different sizes (Heath, 2010). Therefore, this study focuses only on trade openness in real sector.

Then, the results show that the coefficient of persistence is high (0.79). It seems the behaviour of interest rates tends to be persistent. The rules adopted by the government not required a long adjustment. Furthermore, in the estimation results with ARDL models showed considerable influence, as shown by the coefficient of determination (R<sup>2</sup>) equal to 0.9570. This is shows that the independent variable, namely Z1 (deficit rule), Z2HP (debt rule), Z3 (discretionary), and Openness either in long term and short term able to explain the variation or interest rate changes to 95 percent. The estimation results with ARDL models in the long-term is consistent in explaining the behavior of interest rate.

### Concluding Remarks

Therefore this study, in the case in Indonesia shows a model of deficit rule in the short-term and long-term does not contribute in stabilizing interest rates in goods market then, debt rule in the long term makes interest rates rise, it indicates the low credibility of debt rule where the debt rules in actual projection have wide deviation with the planned debt rule so the impact would be to raise interest rates. Then, this indicates short-term discretionary implemented by the government would increase interest rates, so that we can conclude that short-term discretionary is not credible because it can raise interest rates. And the last model is the openness which showed an increase long-term openness will raise interest rates.

The economic implications of these findings, if the debt can be realized closely to the planned debt, the deviation will be small then interest rates will stabilize. The government could re-structure, because in the goods market interest rates cannot predict its changes. Therefore, any policy rules that are taken must consider the future, so that the burden is not large in the future. Furthermore, openness in the long term, the government has to intervene in order to reduce the volatility of interest rates.

### References

- Abduruhaman. (2013). "The Behaviour of Fiscal Policy in Indonesia in Response to Economic Cycle: A Comparison with other ASEAN Countries", 23<sup>rd</sup> PRSCO and the 4<sup>th</sup> IRSA Institute, July, 2-4, Bandung.
- Aizenman, J. and Marion, N. (1993). "Policy Uncertainty, Persistence, and Growth", *Review of International Economics*, 1(2): 145-63, DOI: 10.1111/j.1467.9396.1993.tb00012.
- Alkitoby, B., et al. (2006). "Public Spending, Voracity, and Wagner's Law in Developing Countries", *European Journal of Political Economy*, 22(4): 908-924, DOI: 10.1016/j.ejpoleco.2005.12.001.
- Auerbach, Alan. "Is There a Role for Discretionary Fiscal Policy? in Rethinking Stabilization Policy", (Federal Reserve Bank of Kansas City, August 29-31, 2002), Papers and Proceedings, pp. 109-150.
- Barro, Robert J. (1974). "Are Government Bonds Net Wealth?", *Journal of Political Economy* 82(6): 1095-1117. doi:10.1086/26026.
- Bova, E., Carcenac, N. and Guerguil, M. (2014). "Fiscal Rules and the Pro-cyclicality of Fiscal Policy in the Developing World", IMF Working Paper, WP/14/122, July.
- Brzozowski, M. and Siwinska-Gorzela, J. (2010). "The Impact of Fiscal Rules on Fiscal Policy Volatility", *Journal of Applied Economics*, 13(2): 205-31, DOI: 10.1016/S1514.0326(10)60010-4.
- Eggertsson, B Gaulti. (2009). "What Fiscal Policy Is Effective at Zero Interest Rates?", *Federal Reserve Bank of New York Staff Reports*, no. 402: 28-30.
- Fatás, A. and Mihov, I. (2003). "The Case for Restricting Fiscal Policy Discretion", *Quarterly Journal of Economics*, 118(4): 1419-47, DOI: 10.1162/00335530332252838.
- Gale, W. G.; Orszag, P. R. (2003), "Economic effects of sustained budget deficits", *National Tax Journal*, 56, 463-485.
- Giavazzi, Francesco, and others. "Searching for Nonlinear Effects of Fiscal Policy", *European Economic Review*. (June 2000), pp. 1259-1289.
- Heath, Ellis. (2010). "Real Interest Rates and Fiscal Policy: a Global Study", *Global Economy and Finance Journal*, 3(2): 93-96.

- Kopits, G. (2001), "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament", *IMF Working Papers No. 01/145*, September, International Monetary Fund, Washington DC.
- Kopits, G. and Symansky, S. (1998). "Fiscal Policy Rules", *IMF Occasional Paper*, No.162. Washington, D.C.:International Monetary Fund.
- Krtalic, S., and Benazic, M. (2010). "The Effect of Fiscal Defisit on Interest Rate in Republic of Croatia", *Juraj Dobrila University of Pula*. hlm 8-14.
- Kumar, M.S. and Ter-Minassian, T., (Ed.) (2007). "Promoting Fiscal Discipline", Washington D.C.: International Monetary Fund.
- Kuncoro, H. (2014). "Does the Credible Fiscal Policy Reduce its Volatility? The Case of Indonesia", *Journal of Applied Economic Sciences*, Vol.4, 3(29): 382-391, ISSN. 1843-6110.
- Kuncoro, H., 2011b, "The cost of public debt services, the case of Indonesia," *International Journal of Advanced Economics and Business Management* 1, 1: pp. 14-24.
- Lopez, E Eduardo., et al. (2011). "Long-Term Interest Rate and Fiscal Policy", *Central Bank of Chile Working Papers*, Vol. 633: 5-11.
- Madura, J. 2003. "Financial Market and Institution", 6th ed, South Western: Division of Thomson Learning.
- Marneffe, W., Aarle, B.V., Wielen, W.V.D., and Vereeck, L. (2011). "The Impact of Fiscal Rules on Public Finances in the Euro Area", *CESifo DICE Report*, 3: 18-25.
- Naert, F. (2011). "Credibility of Fiscal Policies and Independent Fiscal Bodies", *Review of Business and Economic Literature*, 56(3): 288-309.
- Sahay, R. and Goyal, R. (2006). "Volatility and Growth in Latin America: An Episodic Approach", IMF Working Paper WP/06/287, December.
- Sujai, Mahpud. (2014). "Pengendalian Defisit Anggaran", *Buletin Kinerja Badan Kebijakan Fiskal*, 21: 5-6.
- Surjaningsih, N., Utari, G.A.D., and Trisnanto, B. (2012). "The Impact of Fiscal Policy on the Output and Inflation", *Bulletin of Monetary Economics and Banking*, 14(4): 367-96.
- Tapsoba, R., (2012). "Do National Numerical Fiscal Rules Really Shape Fiscal Behaviors in Developing Countries? A Treatment Effect Evaluation", *Economic Modelling*, 29(4): 135669, DOI: 10.1016/j.econmod.2012.03.003.
- Woo, J. (2006). "The Political Economy of Fiscal Policy: Public Deficits, Volatility, and Growth", *Lecture Notes in Economics and Mathematical Systems*, Vol. 570, Berlin: Springer-Verlag.