THE CREDIBILITY OF FISCAL POLICY AND COST OF PUBLIC DEBT

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Abstract: *This paper investigates the potential relationship between the credibility of fiscal policy and the cost of public debt. We analyze how a key component of fiscal governance, the ability of governments to commit the planned budget, affects the government borrowing cost. To test the hypothesis, we take the case in Indonesia over the period 2001-2013. Based on the quarterly data analysis, we found that the non-credible deficit rule tends to induce the interest rate. In contrast, the credible debt rule policy significantly reduces the borrowing cost for about 28 basis points. More interestingly, to reduce the interest cost burden of government debt, strengthening commitment to the fiscal rules is as effective as decreasing the size of debt. Those findings suggest that the credibility of fiscal policy matters to restore the fiscal burden in order to maintain fiscal sustainability in the long-run. Accordingly, improving the credibility of fiscal policy should be an integral part of the public sector reformation program in the country.*

Keywords: *Deficit Rule, Debt Rule, Credibility of Fiscal Policy, Implicit Interest Rate, Fiscal Sustainability*

JEL Classification: *G12, E43, H63*

Introduction

The effectiveness of fiscal policy as a tool of macroeconomic stabilization has gone through a rise and fall both in the academic literature and the real world (Ito, *et al*., 2012). During global financial crisis in the late 2000s, the fiscal policy received so much attention and staged a dramatic comeback. Governments stimulated their economies by increasing spending through stimuli packages, introducing subsidies, and cutting taxes (Christiano *et al*., 2011). Fiscal policy then became a major thrust of international cooperation to combat the global financial crisis.

The recent sharp increase in fiscal deficits and government debt to mitigate the global financial crisis impacts raises questions regarding their effect on the key macroeconomic variables. While the effects of government debt on the economy can operate through a number of different channels, many of the recent concerns about government borrowing have focused on the potential interest rate effect. In one hand, economic theory suggests that this impact is likely to be adverse, empirical results, on the other hand, have been less clear cut.

Knowing the impact of budget deficits and debt on the interest rates is crucial. For point of view of researchers, it is an important test for the validity of classical, Keynesian, and Ricardian paradigms. Policy makers consider the impact of fiscal policy also as crucial issue. The effects of the budget deficits pass through interest rates to the major macroeconomic variables. Their immediate effects can be seen on the growth of public debt which, in turn, may produce long term effects including further rise in budget deficits due to debt serving and burden for the future generation.

In a bid to achieve the goal of sustainable public finances, many countries have adopted some form of fiscal rule (or a combination of fiscal rules). The governments with a strong reputation of fiscal prudence may have less need for discretionary policy action if they have flexible fiscal rules (World Bank, 2014). In the case that the condition is not met, fiscal rules are mechanisms to support fiscal credibility, fiscal sustainability, and counter-cyclical fiscal policies by removing discretionary intervention (Kopits, 2001). The concurrence of the budget deficits and debt limitation raises the question as to the nature of the relationship between the interest rates with the fiscal rules.

1 Statement of a Problem

Indonesia provides a unique opportunity to examine the nature of fiscal policy. The sharp increase in fiscal deficits and public debt induced by Asian financial crisis has raised concerns about the sustainability of public finances and highlighted the need for a significant adjustment over the medium term. According to the Law No. 17/2003, since 2004 Indonesia has been conducting a fiscal rule based on maximum deficits and debt. To meet the expenditure needs, she shifted her budget deficit financing strategy from the multilateral and bilateral foreign debt to domestic borrowing by issuing bond.

In line with the global financial crisis in 2008, the government attempted to revive economic activity through various fiscal stimulus measures. In fact, the fiscal stimulus programs have contributed substantially to Indonesia faster and stronger than expected recovery (Hur *et al.*, 2010). After that, gradually Indonesia in 2010s is one of the largest developing countries to implement various economic liberalization reforms that produce strong economic growth (Abdurohman and Resosudarmo, 2017).

Given the significance of huge debt stock, whether the state budget can finance all spending in the long term without losing budgetary functions is a key political and economic issue. Surprisingly, the rule has not been tested, as Indonesia's fiscal performance has been significantly better than the limits contained in the fiscal rule (Blöndal *et al.*, 2009). The main objective of this paper is to analyze the potential impact of fiscal policy credibility on the interest cost of government debts.

2 Literature Review

The empirical study regarding the association between fiscal variables and interest rates is triggered by Plosser (1982). He found tax reduction financed by bond issues has insignificant effects on interest rate. A number studies have extended his seminal study in several ways. Evans (1985; 1987) found that tax reduction has a significant negative effect on various types of interest rates. Plosser (1987) refined his earlier work to capture the effects on real interest rate and showed no or little association between real or nominal interest rates and deficits.

Some scholars challenge those findings above (Feldstein; 1986; Elmendorf, 1993; Engen and Hubbard, 2004). They showed that the positive association between budget deficits or government debts and current interest rates exists primarily when budget deficits or government debts are anticipated. Wachtel and Young (1987), Thorbecke (1993), and Elmendorf (1996) that used "event analysis" of news reports or announcements of budget projections even support to the conclusion of significant and positive association.

What type of the change in deficit will be anticipated by markets in the near future is questioned by Balduzzi *et al*. (1997). They argue that if the anticipated change consists of spending cuts, interest rates of all maturities increase but short rates increase more than longer rates. If however there is uncertainty on the type of the fiscal policy change, the prediction of the model can be radically different: provided agents attach a positive probability to an increase in public spending, the yield curve may become steeper in anticipation of a reform.

Gale and Orszag (2003) reviewed 58 studies investigating the impact of the US fiscal deficit on the long-term interest rates and showed that only in slightly less than half of those studies was a significant positive impact defined. However, they stated that studies that use projected instead of the current fiscal deficits more often tend to show statistically significant effects of these variables. A significant effect of fiscal policy on the US long term interest rates was found in later studies as well (see, for example, Dai and Phillipon, 2005; Laubach, 2009).

In a different point of view, Caselli *et al*. (1998) used the primary balance to accomodate institutional factors. They found that an improvement in the primary balance is associated with a significant reduction in debt servicing costs. Other works explicitly consider institutional factors in their model. According to Campbell (1995) and Missale *et al*. (1997), a government committed to fiscal consolidation and debt stabilization may reduce the cost of debt servicing. Poterba and Rueben (2001) found evidence that risk premia fall with good fiscal institutions.

In an extension to the fiscal institutions, some researchers start dealing with policy credibility. Hauner *et al*. (2007) examined the impact of EU (a supranational entity that is generally considered to have higher policy credibility) accession on three key variables that can reflect in varying degrees of policy credibility: sovereign ratings, foreign currency spreads, and local currency yields. The results suggest that the EU new member states appear to have enjoyed higher effects of credibility on sovereign credit compared to their peers.

In emerging markets Baldacci *et al*. (2008) indicated that both fiscal and political factors matter for credit risk. Lower levels of political risk are associated with tighter spreads, while efforts at fiscal consolidation narrow credit spreads, especially in countries that experienced prior defaults. Alesina and Ardagna (2009) added a further channel based on agents' expectations. A credible commitment to avoid a debt default or build-up in debt lowers agents'expectations of interest rate levels and the risk premium on government bonds.

The possibility of isolating fiscal from non-fiscal influences can be of great importance for the conduct of fiscal policy. Taking the case of emerging markets, Žigman and Cota (2011) argue that the optimization of fiscal policy can avoid a growth in the costs of government borrowing. However, in relation to fiscal rules, Heinemann *et al*. (2014) found evidence that politicians and voters preferences affect sovereign bond spreads and dampen the measurable impact of fiscal rules.

While there is a growing empirical literature studying whether permanent constraints on fiscal policy reduce sovereign risk premia, the similar researches in Indonesia are rare. PPE UGM and BAF (2004) concluded that Indonesia's foreign debt has been large because the borrowing costs are cheaper than the cost of domestic debt. Kuncoro (2011) concluded that the cost of domestic debt services is

more expensive than that of foreign debt but the usage efficiency of domestic debt is higher than the latter.

Dealing with other domestic financial sources, Adiningsih (2009) showed that the crowding-out problem occurred. She indicates that financing budget deficit by issuing debt instruments in the financial markets has a negative impact on the private sector. Laksmi *et al*. (2012) pointed out that the rising interest rate as impacts of government debt issuance is evident. In short, Indonesia needs to be cognizant of specific structural and institutional features when employing fiscal policy as an economic stabilization tool (Doraisami, 2013). This brings us back to the issue of credibility of fiscal policy.

3   Research Method

By definition, the interest rate is a fee as percentage of debt that should be paid by debtor to creditor in a certain period. The implicit real interest rate (RRD) of government debt is obtained by dividing interest payments (IRP) by overall debt stock in the current period minus the inflation rate. It represents the averages interest rates of newly issued, including refinanced debt, and rates of non-maturing debt issued in the past.

$$RRD = IRP/Debt - inflation\ rate \tag{1}$$

Hence, the interest rate of government debt (RRD) is a function of debt stock (RD) in the previous period. The debt stock ratio is calculated by dividing the debt stock to the GDP in from of the following equation:

$$RD = Debt/GDP \tag{2}$$

When the debt is accumulated for the longer period, the interest rate of government debt in the previous period (RRD_{t-1}) should be taken into account:

$$RRD_t = a + b_1\ RD_{t-1} + b_2\ RRD_{t-1} \tag{3}$$

The lagged dependent variable is incorporated into the equation model to capture the degree of persistency where $0 \leq b_2 \leq 1$ and ($1 - b_2$) is the coefficient of adjustment.

We measure the fiscal policy credibility using forecast error based on the deviation of actual outcome from the planned budget. Assume that budgetary projections are the announcements of a political target. Analogously to Naert (2011), the credibility of fiscal policy (E_t) is measured as the difference between its actual budget balance in year t (A_t), and its most recent target for the budget balance for year t in $t-1$ (P_t):

$$E_t = A_t - P_t \tag{4}$$

The positive values of E_t mean a better-than-projected policy execution, yielding a higher surplus or a lower deficit. The negative values indicate that governments achieved results that were worse than projected or that forecasts were optimistic, that is, underestimations of the deficit or overestimations of the surplus.

In the similar way, we might construct the credibility of fiscal policy index (CI) as follows:

$$CI_t = A_t / P_t \tag{5}$$

Based on this formula, the accuracy of fiscal policy is indicated by a score of 1. If the budget realization were less than what has been targeted before, the credibility index would be indicated less than 1. Meanwhile, if the budget realization exceeds the projected figures, the index will be greater than 1.

Furthermore, budget deficit is the difference between government revenue (*REV*) and government expenditure (*EXP*). This will be applied for the actual (subscript *A*) and the planned (subscript *P*) budgets:

$$DEF_A = REV_A - EXP_A \tag{6}$$

$$DEF_P = REV_P - EXP_P \tag{7}$$

Refer to (4), the deficit rule policy is said to be credible if there is a little difference between actual and projected fiscal measures (Naert, 2011). Hence, the ratio of the actual deficit to the planned deficit represents the deficit rule policy credibility. Combining (4) and (5), we use the ratio between the actual deficit and the planned deficit:

$$Z_1 = Def_A \div Def_P \tag{8}$$

As (5), the accuracy of deficit rule policy is indicated by a score of 1. If the budget deficit realization in the current period is less than what has been targeted before, the budget deficit credibility index would be indicated less than unity. Meanwhile, if the budget deficit realization exceeds the projected figures, the index will have a greater than unity.

The similar idea is applied for debt because debt is a legacy of past deficits. Unfortunately, neither flow nor stock of the planned debt time series data is unavailable in Indonesia. Therefore, it is necessary to estimate it. Following methodology used by Akitoby *et al.* (2006), we suppose there is a steady-state (or long-run path) relationship between actual debt and the key macroeconomic variable given by:

$$Debt_t = C\, Y_t^\delta \tag{9}$$

Equation (9) can also be written in the logarithmic linear form as:

$$Log\ Debt_t = Log\ C + \delta\ Log\ Y_t + \mu_t \tag{10}$$

where C and δ are parameter to be estimated. μ_t is independent and identically distributed disturbance terms with mean 0 and variance σ^2. It also represents the forecasting error given available information of *Y* in period *t*. Hence, the difference between fitted or projected value and actual one presents the debt rule credibility:

$$Z_2 = (Log\ Debt_t)_A \div (Log\ Debt_t)_P \tag{11}$$

To accommodate the monetary phenomena, the relative change in foreign exchange reserve (*FER*) is also incorporated as a control variable. The foreign exchange reserve simply presents the central bank's operations and traditionally is one of the possible methods of reducing variability in the exchange rate policy. In addition, Kandil and Morsy (2014) used international reserves as a measure of credibility.

Eventually, we can construct the implicit interest rate of government debt model that is a function of lagged debt stock (RD_{t-1}), lagged interest rate (RRD_{t-1}), deficit rule policy credibility (Z_1), debt rule policy credibility (Z_2), and foreign exchange reserve (*FER*):

$$RRD_t = a + b_1\, RD_{t-1} + b_2\, RRD_{t-1} + c_1\, Z_1 + c_2\, Z_2 + c_3\, \Delta \log FER_t + e \tag{12}$$

The model will be estimated with quarterly data for the period 2001–2013. The data for this study have already been available on a quarterly basis except the overall balance. The data is then interpolated linearly from annual basis in order to fit the other data in the model. In general, the data are obtained mainly from IMF, World

Bank, Central Bank of Indonesia, Ministry of Finance, and Central Agency of Statistics. They are reported in the cash basis.

Variables that will be used are specified as follows. Debt that is analyzed here is the central government total debt only (excluding Central Bank, state-owned enterprises, local government-owned enterprises, and local government debts). The foreign debt is denominated in US dollar and then transformed into Rupiah using mid-point official exchange rate. Inflation rate is derived from the relative change in GDP deflator at constant prices in 2000. The latest is also used to convert all variables into real values.

4 Results and Discussion

Table 1 presents the descriptive statistics covering mean, median, and extreme (maximum and minimum) values for variables of interest. The average value of the implicit real interest rate is 7.83 basis points. In addition, the implicit real interest rate is highly fluctuated ranging from 3.55 to 24 basis points. However, the low standard deviation compared to its mean value does not support to the conclusion that the movement of the real interest rate considerably varies.

Tab. 1: Descriptive Statistics

	RRD	RD	Z_1	Z_2	Δ Log FER
Mean	0.0787	0.1620	0.7457	1.0007	0.0244
Median	0.0656	0.1342	0.7180	0.9950	0.0305
Maximum	0.2396	0.3055	3.0792	1.0929	0.1435
Minimum	0.0355	0.0912	-0.4397	0.9402	-0.1106
Std. Dev.	0.0426	0.0690	0.6621	0.0362	0.0603
Skewness	1.6252	0.7215	0.9996	0.5660	-0.1567
Kurtosis	5.7721	2.1002	5.1961	2.4695	2.5737
CV	0.5410	0.4262	0.8879	0.0362	2.4760
N	51	51	51	51	51

Source: own calculation

The deficit rule credibility indicates that the deviation of actual outcome from the planned deficit is substantial. The average value of Z_1 suggests that the actual deficit is 75 percent lower than that of planned deficit, indicating downward deficit bias. However, when we look at the positive skewness index, most of the data locate in the right side and thus inconsistent with the earlier conclusion. Applying one-sample test proves that the mean value of Z_1 significantly exceeds from unity at 95 percent confidence level. Accordingly, the deficit rule policy is not credible.

The average value of debt rule deviation from the projected one approaches to unity. The median value of Z_2 is also not far enough to the mean. In addition, the maximum value is relatively close to the minimum value and standard deviation over the mean is relatively small suggesting the data series do not vary. Again, one-sample test accepts the null hypothesis that the mean value equals to unity. It supports to the conclusion that the debt rule policy is more credible than that of deficit rule.

The average value of debt ratio is greater than its median and hence the skewness value is positive; the upper tail of the distribution is thicker than the lower tail. The relative change in foreign exchange reserve is not the case. Even though the two series is normally distributed and kurtosis value is less than 3, the variability of foreign

exchange reserve is relatively higher. The coefficient of variation for the relative change in foreign exchange reserve is 2.5, higher than the empirical regularity.

Figure 1 presents the evolution of debt stock ratio and implicit real interest rate. There is a synchronized pattern between the two variables of interest in the same direction. It suggests that the higher interest rate burden is associated with the higher debt ratio. An exception holds in 2001. In that period, the debt ratio was high in accordance with the sharp currency depreciation following Asian financial crisis. In addition, most government external debts were due in early 2000s. As a result, the interest rate and amortization payments were about 40 percent of the total outlay (Kuncoro, 2011).

Fig. 1: Government Borrowing Cost, Debt Ratio, and Fiscal Policy Credibility Indices
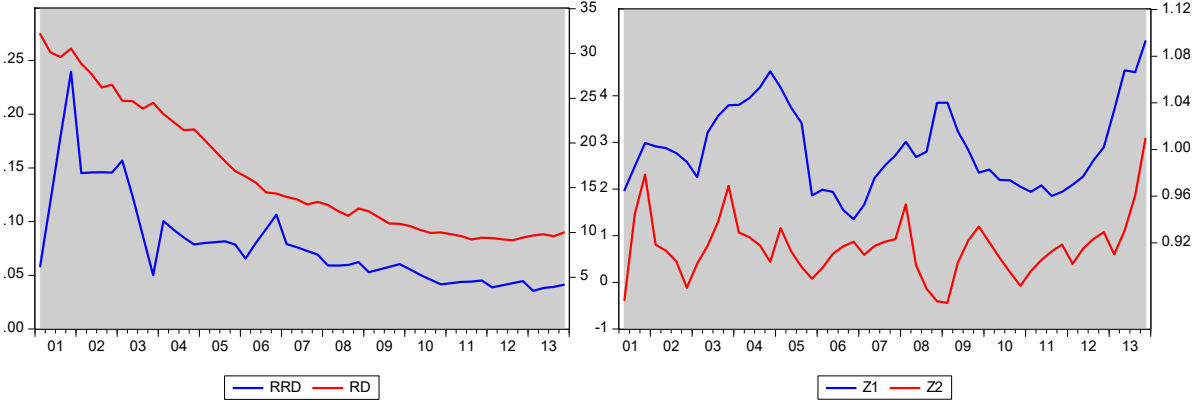
Source: own calculation

There is a moderate degree of positive correlation between deficit and debt rules policy credibility. An exception holds in 2009 and so forth. In those periods, the budget deficit realization exceeded from the planned deficit ratio due to the central government launched fiscal stimuli amounting 73.3 trillion Rupiah (1.7 percent of GDP) allocated to the social welfare in order to minimize the adverse impacts of global financial crisis. This trend is not likely to continue in 2012 as the government has not cut the massive energy subsidies (both fuel and electricity) that were suffering the budget imbalance.

Table 2 quantitatively measures such relationship among variables of interest. It is notable that the correlation of debt ratio and interest rate is highly positive (0.87). The relationship between deficit rule credibility index and interest rate is obtained to be positive, meanwhile the association among the debt rule credibility index and the relative change in foreign reserve with interest rate is found to be negative.

Tab. 2: Pair-wise Correlation Matrix

	RRD	RD	Z_1	Z_2	Δ Log FER
RRD	1.0000	0.8665	0.1044	-0.0777	-0.0965
RD	0.8665	1.0000	0.0795	0.1438	-0.1082
Z_1	0.1044	0.0795	1.0000	0.3957	-0.0955
Z_2	-0.0777	0.1438	0.3957	1.0000	-0.4106
Δ Log FER	-0.0965	-0.1082	-0.0955	-0.4106	1.0000

Source: own calculation

The intensity of relationship among them vis-à-vis does not substantially alter when we divide the observation period into pre- and post-global financial crisis using 2008 as a breaking year. Those established findings raise a preliminary hypothesis that the credibility improvement of the earlier two variables is effective to reduce the government borrowing interest rate cost burden.

In the proceeding section, we focus on the time series properties of each series. Dealing with the difference level of data stationary, we conduct the co-integration test. Using Johansen's maximum likelihood approach, the test performs the presence of the co-integrating equations (at most 3) between the non-stationary (or stationary at the different levels) series which means that the linear combinations of them are stationary. Those series tend to move towards the equilibrium relationship in the long-run.

After ensuring that all of the variables of interest are co-integrated, we move on the analysis of the magnitude of influence for each independent variable on the interest rate behavior. Table 4 reports the OLS estimation results of three regression models as equation (12) in the previous section. All of the hypothesized variables are found to be statistically significant at least at 10 percent or even lower confidence level. They are confirmed by the high coefficient of determination (R^2) and F-statistic values.

Tab. 3: Co-integration Test

Hypothesized No. of CE(s)	Eigen-value	Trace Statistic	0.05 Critical Value	Prob.**
Unrestricted Co-integration Rank Test (Trace): RRD $RD_{(-1)}$ Z_1 Z_2 Δ Log FER				
None *	0.4438	96.3222	69.8189	0.0001
At most 1 *	0.4025	67.5795	47.8561	0.0003
At most 2 *	0.3800	42.3408	29.7971	0.0011
At most 3 *	0.2924	18.9203	15.4947	0.0146
At most 4	0.0395	1.9733	3.8415	0.1601
* denotes rejection of the hypothesis at the 0.05 level				
** MacKinnon-Haug-Michelis (1999) *p*-values				

Source: own calculation

The estimation results show that the impact of the deficit rule policy is positive and statistically significant. It shows a significant discrepancy between the estimated annual budget deficit and its realized outcome. For instance, in 2010 the government's target was set at 2.1 percent of GDP but its outcome was 0.6 percent. This is caused by ongoing problems in the implementation of spending programs; problems with allocation, efficiency, and execution of government spending.

This result indicates that the deficit rule policy credibility increases the interest rates of public debt for about 0.8 basis points on the average. The deviations of the deficit from the target are theoretically associated with higher costs in terms of public disapproval or the loss of credibility which translates into larger premium on government securities in the financial markets. Although progress has been made in shifting public spending from inefficient subsidies to pro-poor programs, Indonesia is still spending too little money primarily on infrastructures that will be considered by investors.

Conversely, the sign of the estimated coefficient of debt rule policy credibility is negative and statistically significant. This suggests that in presence of debt rules do not attenuates interest rate. In other words, the higher commitment to the debt rule tends to

reduce the interest rate cost of government borrowing. The increase in quality of fiscal policy will lead to be lower the interest rates and then economic growth increases.

The monetary phenomena that are captured by the relative change in foreign reserve can marginally (only at 8 percent confidence level) explain the behavior of interest rates. Indeed, the short-term real interest rates reflect cyclical conditions and the stance of monetary policy. Since the corresponding coefficient is negative (-0.08), we can infer that the fluctuation of interest rate in the short-term is typically counter-cyclical against the change in foreign reserve as one of the monetary policy stances.

Tab. 4: Estimation Results of the Government Borrowing Cost

Dependent Variable: RRD	(1)		(2)		(3)	
	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
C	-0.0060	0.3814	0.2163	0.0078	0.2771	0.0017
Z_1	-	-	0.0079	0.0677	0.0085	0.0465
Z_2	-	-	-0.2299	0.0057	-0.2884	0.0013
Δ Log FER	-	-	-	-	-0.0814	0.0799
$RD_{(-1)}$	0.3016	0.0000	0.3480	0.0000	0.3429	0.0000
$RRD_{(-1)}$	0.4377	0.0002	0.3621	0.0010	0.3649	0.0007
R^2		0.8037		0.8356		0.8466
R^2-adj		0.7955		0.8213		0.8295
SEE		0.0193		0.0180		0.0176
F		98.2644		58.4639		49.6605
DW		1.6733		1.7369		1.7910
N		51		51		51

Source: own calculation

It is widely accepted that the long-term rates are likely to raise more in response to the anticipated worsening of fiscal deficits and debt. In the case of Indonesia, that mechanism is not fully supported for several reasons. First, since 2005 the Central Bank has been focusing on the single goal, i.e. domestic currency stabilization. The change in foreign exchange reserves, therefore, is mainly intended to stabilize Rupiah in terms of exchange rates instead of interest rates. Second, the Central Bank is strictly forbidden to finance deficit. Hence, any monetary policy is independent from fiscal authority's interventions. Third, both the deficit and debt ratios are successfully maintained below 3 and 60 percent respectively.

The negative impact of the change in international reserve on interest rate is in line with the study of Kandil and Morsy (2014). According to them, the scope for counter-cyclical policy increases with the availability of international reserves as it enhances credibility and mitigates concerns about the effect of expansionary fiscal policy on the cost of borrowing and debt service. In the case of Indonesia, the expansionary fiscal policy remains stimulating economic growth in the short-run, if fiscal easiness induce credibility so that lowers the cost of borrowing and debt service, and mitigates concerns about debt sustainability.

As expected, the coefficient of debt stock ratio in the past periods is positive. An increase of 1 percent in total debt stock ratio in the previous period tends to induce the current interest rate burden for about 30 basis points. Those are plausible results because the implementation of fiscal rules in Indonesia is in the earlier steps after

switching from the balance budget rule for a long time to budget deficit adoption that is financed by both domestic and foreign debts.

This result above confirms to the conventional wisdom that balanced budget rules can restrain sovereign debt and lower sovereign borrowing costs. Balanced budget rules serve as a public signal that reveals information about the government's fiscal situation and more importantly, provides a focal point around which bond markets can coordinate. In our case, budget deficits induce interest rates. However, along with the evolution of public finance which is currently taking place continually in that country, the adoption of fiscal rules will reduce the interest rate burden.

The estimation of the lagged dependent variable gives the significant coefficients. The coefficient of lagged dependent variable is 0.4 suggesting that a change in the interest rates between quarter *t-1* and *t* drives up the interest rate process in *t* only 0.4 or equivalently 60 percent partial adjustments to respond to the desired interest rates. The interest rate persistency probably due to the increase in commitment fee that should be paid if the outstanding debts are not drawn in the committed period. In principle, this supports to the results of PPE UGM and BAF (2004) and Kuncoro (2011) studies.

Conclusion

The aim of this paper was to provide direct empirical evidence on the potential relationship between fiscal rules policy and interest rates burden. To test the hypothesis, we take the case in Indonesia over the period 2001-2013. We analyzed the quarterly data on deficit and debt deviation from the planned ones and their impact on the implicit real interest rates fluctuation. The empirical study affirms that deficit rule, debt rule, the existing debt, and the relative change in foreign reserve are co-integrated implying they have a long-term relationship.

Furthermore, our pragmatic approach found that the non credible deficit rule policy significantly induces the borrowing cost for about 0.8 basis points. Meanwhile the credible debt rule policy significantly reduces the borrowing cost for about 28 basis points. Overall, the magnitude of fiscal policy credibility has the same effect for the decrease in size of debt stock to repress the interest cost. Those findings suggest that the credibility of fiscal policy matters to restore the fiscal burden in order to maintain fiscal sustainability in the long-run.

Accordingly, those findings provide some important economic implications. First, they suggest that political and institutional factors are the main obstacle in the short-run for government to effectively play an important role to the global financial market via signaling mechanism. Second, the sound and prudent fiscal policy management is necessary to avoid possible dramatic change in interest rates in the long-term in relation to the increase in persistent deficit. Third, as a consequence, they suggest that credibility of fiscal policy improvement should be an integral part of the public sector reformation programs in the country.

Acknowledgement

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