Conference Paper

Fiscal Policy Behaviour in ASEAN: Countercyclical or Procyclical?

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Abstract

Fiscal policy is a policy imposed by the government to influence economic activity in the real sector through expenditure and revenue. Fiscal policy help in smoothing business cycle fluctuations (boom or recession) makes it a potential tool for economic stabilization. Referring to the theory, fiscal policy should have a countercyclical behaviour. Vice versa, many evidence shows if the behaviour of fiscal policy diverse among countries. Therefore, the purpose of this study is to find the fiscal policy behaviour in ASEAN (2001-2018) using the Panel Least Square analysis tool. The estimation results show that the behaviour of fiscal policy in ASEAN are countercyclical for government revenue approach and fiscal balance approach, whereas government expenditure approach is procyclical.

Keywords: fiscal policy, fiscal policy behaviour, countercyclical, procyclical

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1. Introduction

The Global Financial Crisis (GFC) in 2008, became a turning point for various countries in considering the role of fiscal policy on ongoing economic conditions. Before the GFC occurred, many countries used monetary policy as a reference in crisis management because it was considered more effective. However, conditions that occur differently when monetary policy produce results that are less effective in mitigating the adverse effects of GFC in 2008. When many countries use fiscal policy (expansive) to overcome the adverse damages of GFC, it turns out that the real sector responds well to stimulus fiscal policy so that it can carry out activities economy at that time. Since then, governments in various countries have used fiscal policy as an alternative to macroeconomic policies in intervening in community activities in the real sector.

Fiscal policy is one of the tools used by the government in intervention in economic activities in the real sector. Based on these definitions, fiscal policy can directly influence overall economic activity. The fiscal policy tool commonly applied in intervention in the real sector is through government revenues, expenditures, and budget balances. In its

implementation, the government will respect the ongoing business cycle, so that the fiscal policy set can stabilize conditions in the real sector.

According to the theory, the business cycle has two extreme conditions that occur during boom and recession compilation. The Keynesian theory considers the fluctuations in the business cycle in monetary policy to be determined. Fluctuations in the business cycle became the Keynesian basis in his statement that needed fiscal policy to be proposed regarding business cycle problems in a country. Fiscal policy has more power in stabilizing the economic situation in a country (Bilgili, 2001). Related to fiscal policy that considers the business cycles to soften the impact of the conditions (boom or recession) that are occurring (Fatas & Mihov, 2003).

The role of the government in stabilizing the situation in the real sector through fiscal policy will not be realized if implemented without regard to the business cycle. That way, it can be indicated that fiscal policy has a certain behaviour in intervening in the real sector. In general, the behaviour of fiscal policy is divided into two criteria, namely countercyclical and procyclical. Contextual behaviour occur when governments reduce their spending and increase public taxation during booms; vice versa when recession.

The stipulated fiscal policy should have a countercyclical behaviour if it refers to economic theory. However, in reality, this behaviour do not always occur due to several factors. According to (Riascos & Vegh, 2003), there are several factors that influence the behaviour of fiscal policy in a country, including political pressure and loss of access to international markets. However, these factors have different conditions in each country, resulting in different behaviour of fiscal policy. Previous research has shown that fiscal policies that have a procyclical behaviour are prevalent in developing countries, while in developed countries they tend to have a countercyclical behaviour (Woo, 2005). However, the countercyclical or procyclical behaviour of fiscal policy can occur in various countries (Woo, 2005) and (Alesina, Campante, & Tabellini, 2008). Referring to the previous discussion, this study aims to find behaviour of fiscal policy in 10 ASEAN countries.

This study was divided into three sections in explaining the author's findings. Section 1 is an introduction to the research which includes background. Section 2 is a framework of thought in which the author explains the flow of thinking in the formation of this research. Section 3, describes the data, outlines the econometric models and method used in this research. Section 4, reports the empirical results. Next, section 5 conclusion the research than has been done.

1.1. Fiscal policy

Fiscal policy is one of the tools of the government in intervening in the real sector through the determination of the imposition of taxes (government revenues), government spending on provision and public services (government expenditure), and the government's fiscal balance (surplus or deficit). Fiscal policy is used to maintain conditions (stabilization) of the real sector, with take notice of the business cycle that occurs. Fiscal policy has an important role as a government tool that intend to reduce the excessive effects of the current business cycle (Bogdanov, 2010).

1.2. Fiscal policy behaviour

In general, the policy behaviour that applies in a country illustrates the response of fiscal policy to the conditions of the real sector in a country's economy. Fiscal policy is said to be optimal if it is able to reduce/soften the business cycle that occurs in certain conditions. Based on the theory, this optimal condition occurs when fiscal policy has a countercyclical behaviour. This countercyclical behaviour occurs when the government reduces government spending and increases taxation during a boom, and vice versa.

In fact, in addition to the existence of countercyclical behaviour, the behaviour of fiscal policy in a country can also apply to procyclical. Procyclical conditions, briefly represent fiscal policy responses that follow the business cycle. This behaviour is characterized by an increase in government spending and a reduction in taxation during the boom, and vice versa. With such conditions, the government supports the business cycle conditions in the real sector that are happening.

Previous research by (Riascos & Vegh, 2003) aims to clarify the debate regarding the behaviour of fiscal policy in developing countries and the G7 countries in 1970-1994. This research is based on a mismatch of theories regarding the behaviour of a fiscal policy occurring in G7 countries that have an acyclic behaviour. In addition, the results of previous studies which the majority stated that the behaviour of fiscal policy in developing countries was not in accordance with economic theory (procyclical) were also the main foundation of the researchers. The results of this study indicate if the behaviour of fiscal policy in developing countries is procyclical and G7 countries are acyclical.

Work of (Woo, 2005) aims to see whether the behaviour of fiscal policy in 96 developed and developing countries in 1960-2001. The results of this study indicate that the prevailing fiscal policy behaviour is procyclical. The discussion in his research also

explained that these procyclical conditions do not only occur in developing countries but also occur in developed countries. According to him, countries that have a procyclical behaviour are considered more aggressive in responding to the ongoing business cycle.

Bogdanov's research (2010) aims to determine the behaviour of fiscal policy, the role of fiscal policy as automatic stabilizers or discretionary fiscal policy, and to know the effects of fiscal policy on growth and output in developed and developing countries (G20). Bogdanov (2010) divides the sample used into two groups of countries (developed and developing) to achieve the research objectives. The results of his research show that the behaviour of fiscal policy in developed countries is countercyclical, while for developing countries it is acyclical. The insignificance of the business cycle in the real sector towards government fiscal policy explains that when fiscal policy set by the government do not stabilize or support the business cycle in the country concerned (Kaminsky et al., 2004 in Nizar, 2011). This acyclical policy behaviour is also often associated with fiscal policy behaviour based on Barro's view which states that the stipulated fiscal policy should not change so as not to generate new shock in the real sector.

2. Research Method

The analytical method used in this study is multiple linear equation systems. The regression equation uses the Panel Least Square (PLS) analysis tool. Before estimating the models, author conducted a model test on each model used so as to get the best model in this study. The results obtained from the Chow test and Hausman test for the three models used are: (i) model 1 (government revenue approach), a good model to use is the common effect model (CEM); (ii) model 2 (government expenditure approach) and model 3 (fiscal balance approach) are fixed effect models (FEM). After getting a reference to the use of the model for each equation used, the author tests the classification assumptions on each model so that the estimation results can be said to be BLUE (Best Linear Unbiased Estimator).

The researcher refers to the model formed by Bogdanov (2010) regarding the behaviour of fiscal policy. There are several fiscal variables used by Bodagnov (2010), including state revenues, state expenditures, and fiscal balance (budget balance). These variables are chosen because they are the right proxy to see fiscal behavior in a country (Bogdanov, 2010). Bogdanov (2010) uses the per capita approach to the fiscal variables he uses. This is done because according to him, the per capita approach will provide an actual view of how the role of government can affect all levels of society. Furthermore,

the use of real GDP per capita is considered better to be used as a proxy standard of living country used in the study. That way, the use of this approach will provide a more realistic and comprehensive picture of the role of government through its policies on the economy (in this case the real sector) in a country.

The object used in this study consists of two types of variables, namely the dependent variable and the independent variable. Because the author uses 3 models, this study has three different dependent variables. For the first equation, the dependent variable is the growth of government revenues. Second, the dependent variable used is the growth of government spending. Finally or the third equation, the dependent variable of this study is a fiscal balance. Although all three equations have different dependent variables, the independent variables used are the same, namely real GDP growth per capita for the three equations used. To achieve the research objectives, the author uses 10 ASEAN countries in this study. The data of each variable used is secondary data which is then converted into growth by the author, namely: (i) total state revenue; (ii) total state expenditure; (iii) Real Gross Domestic Product (GDP); and (iv) the population sourced from the World Economic Outlook published by the International Monetary Fund.

In the process of forming a model, there is a consideration that there is no theory that explains the direction of the relationship between fiscal policy and economic growth. With this limitation, Bogdanov (2010) assumes that economic growth will, in turn, affect the cyclicality of fiscal policy behaviour that applies in a country. Based on this explanation, Bogdanov (2010) forms three models that are distinguished by fiscal variables used:

$$GRGREV_{i,t} = \alpha + \beta_1 GRGDPRC_{i,t} + u_{i,t} \tag{1}$$

$$GRGEX_{i,t} = \alpha + \beta_2 GRGDPRC_{i,t} + u_{i,t} \tag{2}$$

$$(\frac{G-T}{GDP})_{i,t} = \alpha + \beta_3 GRGDPRC_{i,t} + u_{i,t} \tag{3}$$

Information:

GRGREV$_{i,t}$: Government revenue growth per capita (percent)

GRGEX$_{i,t}$: Government expenditure per capita (percent)

T$_{i,t}$: Government revenue (local currency unit)

G$_{i,t}$: Government expenditure (local currency unit)

GRGDPRC$_{i,t}$: Real gross domestic product growth per capita (percent)

GDP$_{i,t}$: Real gross domestic product (local currency unit)

The first model is an approach that is formed based on fiscal variables of government revenue. Whereas for the second model, the fiscal variable used is government

expenditure and the third model used a fiscal balance approach. The coefficients of β1, β2, and β3 (in order) in the model (1), (2), and (3) will show the cyclicality behaviour of fiscal policy in the countries studied (Table 1).

TABLE 1: Cyclicality of Fiscal Policy.

Coefficient β	Countercyclical	Procyclical
Equation (1) (β_1)	(+)	(-)
Equation (2) (β_2)	(-)	(+)
Equation (3) (β_3)	(-)	(+)

Source: Bogdanov (2010).

A country's fiscal policy has countercyclical behavior if GDP growth per capita is positively related to the growth of government revenues; or a negative relationship to the growth of government spending. While the fiscal policy has procyclical behavior if GDP growth per capita is negatively related to the growth of government revenues; or a positive relationship to the growth of government spending. Fiscal policy behavior can be acyclical (constant) if it does not have a significant effect on the results of processing data in equations (1), (2), or (3).

3. Empirical Results

TABLE 2: Government Revenue Approach.

Dependent variable = GRGREV		
Independent variable	Coefficient	Prob.
GRGDPRC	1,258201	0,0000
R^2 = 0.362941		

Source: Author's own work.

Based on the results of processing using the government's income approach (Table 2), it can be seen if the fiscal policy in ASEAN has a countercyclical behaviour. Every increase in real GDP per capita is 1%, resulting in an increase in government income per capita of 1.25%. That is, when the real sector in ASEAN is in a good times condition, the government will experience an increase in income. This happens according to the basic principle of the behaviour of countercyclical fiscal policy, namely the government will receive more tax revenues when the good times due to increased tax imposition. The conduct of international trade (in this case is export) and the ease of investment among ASEAN member countries is also one of the other sources of income. Ease of export and investment can contribute to the addition of the amount of tax imposed (ASEAN

Secretariat, 2017). Other activities such as tax amnesty carried out during the study period can also be one of the factors why the behaviour of fiscal policy in ASEAN is countercyclical. On the other hand, the government also reduces or limits its expenditure (countercyclical policy) so that it can reduce economic activity in the real sector (so as not to boom). Thus, the role of the government as a stabilizer in the real sector in ASEAN in the period of research has been achieved.

TABLE 3: Government Expenditure Approach.

Dependent variable = GRGEX		
Independent variable	Coefficient	Prob.
GRGDPRC	0,339731	0,0012
R^2= 0,305102		

Source: Author's own work.

Estimation results obtained using the government expenditure approach (Table 3) show a behaviour of procyclical fiscal policy, this is different from the previous approach. If interpreted, each increase in real GDP per capita is 1%, resulting in an increase in government expenditure per capita of 0.33%. This means that government spending in good times will increase, and taxation (tends to) be lowered. In general, the expenditure of the ASEAN government in the research period is increasing from year to year due to the focus of infrastructure development carried out. The infrastructure development is nothing but to mitigate the impact of global problems such as uncertainty in international trade (outside ASEAN) and political pressure that can affect economic activity in the real sector (ASEAN Secretariat, 2017). From another point of view, the monetary policy carried out by the majority of ASEAN countries triggered a capital outflow that has the potential to depreciate the domestic currency (ASEAN Secretariat, 2018). With such conditions, the government needs to spend more to create new incentives to attract investment into the country (in each of the 10 ASEAN countries).

TABLE 4: Budget Balances Approach.

Dependent variable = BUDBAL		
Independent variable	Coefficient	Prob.
GRGDPRC	-0,228265	0,0000
R^2= 0,345180		

Source: Author's own work.

The last is the budget balances approach, showing the same results as the first approach (government revenue), namely fiscal policy in ASEAN has a countercyclical behaviour. Each increase in real GDP per capita is 1%, resulting in a reduction in the

government's balance deficit of 0.22%. That is, if the real sector is in good times, the government deficit will decline. This decrease in the deficit is due to efforts that have been made to improve fiscal balance in each country. Various factors that have contributed to the reduction of deficits by each ASEAN country include improved credit quality (for international access), export in leading sectors so as to obtain income, utilize the potential of the tourism sector in various ASEAN countries, and manage imposition better tax (OECD, 2018). With these efforts, the ASEAN policy behaviour based on the fiscal balance approach is countercyclical.

Estimates made produce fiscal policy behaviour that vary for each approach. The approach to income and the balance of government is countercyclical, while the approach to government expenditure is procyclical. Based on these differences, the behaviour of fiscal policy in ASEAN can vary according to the fiscal policy tool chosen by the relevant government.

4. Conclusion

Referring to economic theory, fiscal policy in a country is determined by respecting the existence of a business cycle. This condition creates a behaviour of fiscal policy in intervening in the real sector in a country. Based on the theory, fiscal policy should have a countercyclical behaviour. With this behaviour, fiscal policy can stabilize the business cycle that occurs in the real sector of a country. But in reality, the policy behaviour can be reversed (procyclical) or even not stabilize/support the real sector (acyclical). The use of panel data aims to find out how fiscal policy behaviour occur in ASEAN in the period 2001-2018. Based on the results of the estimation made, there are differences in the estimation results which show different fiscal policy behaviour also in accordance with the approach (model) used.

The result of equation 1 is the approach to government revenues, the behaviour of fiscal policy, in general, is countercyclical. Equation 2 is the approach to government expenditure, the behaviour of identified fiscal policies is procyclical. Finally, equation 3 (fiscal balance approach) shows that fiscal policy in ASEAN has a countercyclical behaviour. In general, the factors that influence the behaviour of fiscal policy are political pressure, uncertainty in trade and investment, and fiscal uncertainty. Whereas based on factors that influence the behaviour of fiscal policy on a regional basis are the prevailing fiscal system and the ability of the country concerned in dealing with the ongoing global factors ((ASEAN Secretariat, 2017); (ASEAN Secretariat, 2018); and (OECD, 2018)). That

way, the behaviour of fiscal policy in force in ASEAN is based on the chosen fiscal policy tool (the results of the three models are different).

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References

[1] Alesina, A., Campante, F. R., & Tabellini, G. (2008, September). Why is fiscal policy often procyclical? Journal of the European Economic Association, 6(5), 1006-1036.

[2] ASEAN Secretariat. (2017). ASEAN economic integration brief. Jakarta: ASEAN Secretariat.

[3] ASEAN Secretariat. (2018). ASEAN economic integration brief. Jakarta: ASEAN Secretariat.

[4] Bilgili, F. (2001). The keynesian-monetarist debate on business cycles: a case study of the great depression. Journal of Faculty of Economics and Administrative Sciences, 17, 54-71.

[5] Bogdanov, B. (2010). Cyclicality of fiscal policy over the business cycle: an empirical study on developed and developing countries. Bulgaria: Agency for Economic Analysis and Forecasting.

[6] Fatas, A., & Mihov, I. (2003). Fiscal policy and business cycles: an empirical investigation. INSEAD dan CERP.

[7] Nizar, M. A. (2011). Siklikalitas kebijakan fiskal di indonesia. Jurnal Keuangan dan Moneter, 14(1), 55-82.

[8] OECD. (2018). Economic outlook for southeast asia, china, and india 2018: fostering growth though digitalisation. OECD Development centre. Paris: OECD Publishing.

[9] Riascos, A., & Vegh, C. A. (2003, October). Procyclical government spending in developing countries: the role of capital market imperfections. Colombia.

[10] Woo, J. (2005). The behaviour of fiscal policy: cyclicality and discretionary fiscal decisions. Chicago.