ISSN : 2302 - 1590
E-ISSN: 2460 – 190X

ECONOMICA
Jurnal Program Studi Pendidikan Ekonomi
STKIP PGRI Sumatera Barat Vol.9 No.2 (172 – 181)

MONETARY VS FISCAL POLICY, WHICH IS MORE EFFECTIVE? CASE STUDIES OF ASEAN

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Submitted: 2020.12.10 Reviewed: 2021.04.08 Accepted: 2021.04.29

<https://doi.org/10.22202/economica.2021.v9.i2.4562>

Abstract

Purpose of this study is to analyze the effectiveness of monetary and fiscal policies on economic growth in ASEAN-5 (Indonesia, Malaysia, Philippines, Thailand, and Vietnam) from 1998 to 2019. Monetary policy is measured from inflation, fiscal policy is measured from government spending, and economic growth is measured from GDP's growth based on constant prices 2010. Data analysis techniques use Vector Auto Regressive (VAR), Impulse Response Function (IRF), and Variance Decomposition (VD). The results show that monetary policy is much more effective than fiscal policy in Asean-5. Fiscal policy is considered ineffective in this study, it does not mean that fiscal policy in ASEAN-5 has not had any influence on economic growth, but the point is, the role of fiscal policy during the study period is less than monetary policy. Given the irregular allocation of budget funds and non-productive expenditures by the fiscal authorities, the ineffectiveness of fiscal policy is not surprising. In addition, in an unstable market environment, the implementation of fiscal policy is highly determined and controlled by political forces.

Jel Classification:

N1; O23; O4

Keyword: Monetary, Fiscal, Economic Growth

INTRODUCTION

Increasing the production of goods and services that we usually call GDP, as well as the welfare of the people, is the final goal of macroeconomics that a country wants to achieve. To achieve this goal, it is necessary to carry out policies that are right on target, so that the economy grows rapidly. These policies are fiscal and monetary policies.

In recent years, the effectiveness of fiscal and monetary policy in the economy has been a source of debate among economists. On the one hand, empirical studies using structural models show that fiscal policy has a greater impact on the economy. On the other hand, empirical studies using a monetarist model show that monetary policy has a greater influence (Fatima & Iqbal, 2003). We know that fiscal and monetary policies are always in opposite directions in influencing macroeconomics. For that, we need to find out which policies are the most effective in influencing the economy. The effectiveness of this policy, is not just a coordination or interaction between policies, but how these policies are able to overcome various challenges and economic phenomena that occur.

The theory that initiated the theory of the effectiveness of monetary and fiscal policy is the theory of classical and Keynesian theory. These two theories have different views on the policies taken in the economy. Classical theory developed by the Monetarists (Neo-classical) emphasizes the use of monetary policy in overcoming economic problems. This opinion is based on the premise that the effect of monetary policy on aggregate demand is direct. Additional cash will not necessarily be purchased in securities, but will be spent directly in the form of goods. Fiscal policy in this case is considered less effective in influencing the economy given the crowding out effect in the policy. Meanwhile, according to the Keynesian theory, it states that monetary policy has an impact on the economy through

several channels (transmission mechanisms). These routes tend to cause the effects of monetary policy to be uncertain. Keynes put more emphasis on the use of fiscal policy in the economy. This is based on his opinion that, firstly, the elasticity of money demand against the interest rate is very small (extrem zero) so that the IS curve is upright. Expansive fiscal policy will shift the IS curve to the right so that output increases. Meanwhile, monetary expansion with the addition of the money supply on the vertical IS curve will not affect output. This shows that fiscal policy will be more effective than monetary policy (Romer, 2011).

This research refers to research by (Dahalan & Jayaraman, 2006), which examines monetary and fiscal policy in Fiji. Found that in the long run fiscal policy, which is represented by government spending, has a greater impact than monetary policy on gross domestic product. Meanwhile, in the short term, only fiscal policy has an influence on GDP. The results of his research support the Keynesian theory where fiscal policy is an important variable on maintaining macroeconomic stability. Originality in this study is the researcher who examines five Asean countries, namely Indonesia, Malaysia, Thailand, the Philippines, and Vietnam.

Research refers by (Fatima & Iqbal, 2003), examined the effectiveness of monetary and fiscal policies in econometric studies in five Asian countries (Pakistan, India, Thailand, Indonesia, and Malaysia). Found that there is a strong reciprocal relationship between fiscal policy and economic growth and for monetary policy there is a causal relationship with economic growth in Thailand. Research from (Tan, et al., 2020), which examines the impact of monetary and fiscal policy on economic growth in Malaysia, Singapore, and Thailand. Found the monetary policy is more effective in Malaysia and Singapore, while fiscal policy was effective in Thailand. Research from (Arestis & Sawyer, 2004), which reviews the

effectiveness of monetary and fiscal policy. It concludes that, the monetary policy is powerless, while fiscal policy (under certain conditions) remains a powerful tool in maintaining macroeconomic stability. Research from (Jawadi, Mallick, & Sousa, 2015), which examined fiscal and monetary policy in BRICs, which found that monetary contraction causes, a decrease in real economic activity and tightens liquidity market conditions, while government spending shocks have a strong Keynesian effect, meaning fiscal policy have a greater influence on the economy.

Research from (Rahman, 2009), examines the effectiveness of monetary and fiscal policy on output growth in Bangladesh. Found that, only monetary policy has a significant positive impact on real output growth in Bangladesh. Research from (Takyi, 2017), which examines the effect of monetary and fiscal policy on economic growth in Ghana. The results found that, in comparison, monetary policy is more effective in Ghana than fiscal policy, both long and short term. Research from (Ali, Irum, & Ali, 2008), examines the effectiveness of fiscal and monetary policies for economic growth in South Asian countries. The results found that, monetary policy is more effective than fiscal policy for economic growth in South Asian countries. Research from (Idris, 2019), investigates the impact of monetary and fiscal policy on economic growth in a small open economy in Nigeria. The results found that, monetary policy is much more effective than fiscal policy in the study's period. Research from (Ajisafe & Folorunso, 2002), which examines the effectiveness of fiscal and monetary policies on macroeconomic management in Nigeria. The results found that, monetary policy has a greater impact on economic activity in Nigeria than fiscal policy. Research from (Abdullahi & Omeiza, 2019), which examines the impact of monetary and fiscal policy on economic growth in Nigeria,

the results found that, the money supply contributes the most significantly to GDP predictions in Nigeria than tax revenue generated. This means that monetary policy has a greater influence than fiscal policy.

This study refers to research from (Musa, Asare, & Gulumbe, 2013), which examines the effectiveness of the interaction between, monetary and fiscal policy on output growth in Nigeria. Found that, monetary and fiscal policies have a greater impact on real GDP in Nigeria. Monetary and fiscal optimization, have an impact on macroeconomic stabilization, which requires optimal interactions on order to achieve the goals expected by policy makers. Research from (Tadesse & Melaku, 2019), examines the impact of monetary and fiscal policy on economic growth in Ethiopia. The results found that, monetary and fiscal policy have the same significant and positive effect on economic growth in Ethiopia, but fiscal policy is more effective than monetary policy on influencing Real GDP in the long run. However, in the short term, fiscal policy is effective whereas monetary policy proxies by the money supply are not effective in influencing output growth in Ethiopia.

Research from (Adegoriola, 2018), which examines the effectiveness of monetary and fiscal policy instruments on economic stabilization in Nigeria. The results found that, there is a long-run equilibrium relationship between monetary and fiscal variables and economic growth in Nigeria. This is confirmed by a positive relationship between the money supply, government spending and income, while interest rates and budget deficit have a negative relationship with economic growth.

METHODS

This research located in five Asean countries, that is, Indonesia, Malaysia, Philippines, Thailand and Vietnam. The data in this study started from 1998 - 2019. These data were obtained from the World Bank in the

form of economic growth based on the growth of GDP based constant price 2010 which is measured in percent, inflation based on the consumer price index in percent, and government spending which is calculated from the percentage of expenditure government consumption to GDP.

The analysis method used in this research is Vector Autoregression (VAR). A policy is said to be effective, if the contribution of policy shocks to an endogenous variable has the greatest role (in percent) compared to other policies (Satrianto, 2017). The model of the effectiveness of fiscal and monetary policy on economic growth with the VAR model is shown as follows:

$$EG = \alpha_{it} + \sum_{i=1}^n \beta_{1i} EG + \sum_{i=1}^n \gamma_{it} INF_{t-1} + \sum_{i=1}^n \delta_{1i} G_{i=1} + \varepsilon_{1t}$$

$$INV = \alpha_{it} + \sum_{i=1}^n \beta_{1i} + \sum_{i=1}^n \gamma_{it} INF_{t-1} + \sum_{i=1}^n \delta_{1i} G_{i=1} + \varepsilon_{2t}$$

$$G = \alpha_{it} + \sum_{i=1}^n \beta_{1i} EG + \sum_{i=1}^n \gamma_{it} INF_{t-1} + \sum_{i=1}^n \delta_{1i} G_{i=1} + \varepsilon_{3t}$$

RESULTS AND DISCUSSION

a. Stationary Test

The first step taken to analyze the effectiveness of monetary and fiscal policy on economic growth is to test stationary. From the stationary test conducted, the variables of economic growth, monetary policy, and fiscal turned out to be stationary at the level stage, with a probability of <0.05, therefore it is no longer needed at the 1st difference or 2nd difference stages. This condition can be seen in table 1.

Table 1. Stationary Test Results

No.	Variabels	Probability (Level)	Conclusion
1	Economic Growth (EG)	0.0000	Stationer
2	Monetary Policy (INV)	0.0000	Stationer
3	Fiscal Policy (G)	0.0248	Stationer

Source: Processed by Eviews 9

b. Lag Optimum Test

The next step is to perform an optimal lag test. Selection of the optimal lag is very important, because it can affect the acceptance and rejection of the null hypothesis, result in estimation bias and can result in inaccurate predictions. The methods used are the likelihood ratio

(LR), Final Prediction Error (FPE), Akaike Information Criteria (AIC), Schwarz Information Criterion (SIC), and Hannan Quinn Information Criterion (HQ) with a minimum value. From table 2 it can be seen that the minimum value of all these criteria appears in lag 3. Therefore, lag 3 is the optimal lag.

Table 2. Lag Optimal Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-448.0802	NA	680.1987	15.03601	15.14072	15.07697
1	-378.0126	130.7929	88.88847	13.00042	13.41929*	13.16426*
2	-365.5565	22.00576	79.42295	12.88522	13.61824	13.17194
3	-354.7220	18.05744*	75.17758*	12.82407*	13.87124	13.23367
4	-350.0864	7.262553	87.95712	12.96955	14.33087	13.50203
5	-344.1748	8.670238	99.33463	13.07249	14.74797	13.72786
6	-334.6499	13.01735	100.3831	13.05500	15.04463	13.83325
7	-326.0813	10.85357	105.9689	13.06938	15.37316	13.97051
8	-321.7827	5.015103	130.8913	13.22609	15.84402	14.25011
9	-312.1123	10.31507	137.6776	13.20374	16.13583	14.35064
10	-305.0350	6.841386	161.5627	13.26783	16.51407	14.53761

Source: Processed by Eviews 9

c. Stability Test

Figure 1. AR Roots Modulus Value

After the optimal lag test is continued by performing the VAR stability test. This test is valid for the IRF and Variance Decomposition results. VAR stability is seen from the inverse roots of the AR polynomial characteristics. If all the AR-roots values are in a circle, then the VAR system can be said to be stable and vice versa. Figure 1 shows all the nominal AR modulus values contained within the circle. Thus, it can be said that, the VAR system in this

model is stable. A stable VAR will produce a valid IRF and Variance Decomposition.

d. Cointegration Test

Next step is to test the cointegration. This test is to find out, whether there will be balance in the long term. If the model is integrated, the model is analyzed using the VECM method, but if the model is not integrated, the model is analyzed using VAR. In table 3, it can be seen that the

three variables in this equation have a small probability value of 0.05, meaning that the variables do not occur

cointegration, therefore the model used is the VAR level method.

Table 3. Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.186302	28.10176	29.79707	0.0774
At most 1	0.061555	9.546846	15.49471	0.3172
At most 2	0.041653	3.829043	3.841466	0.0504

Source: Processed by Eviews 9

e. IRF Analysis

Figure 2. Economic Growth Response to Monetary (A) and Fiscal Policy's (B) Shocks

Furthermore, an Impulse Response Function (IRF) analysis is performed, which is used, to see the effect of shock on endogenous variables that will affect the variables themselves and will spread to other endogenous variables. IRF provides the direction of the relationship, the magnitude of the influence between endogenous variables. Estimates carried out for IRF, emphasize the response of a variable to changes in one standard deviation itself or other variables.

Figure 2A shows the response to changes in economic growth, due to shocks from monetary policy. The shocks at the First a the balance line, then decreases to the second period, then increases in third period, then always remains on the balance line until the tenth period. Therefore, shocks from monetary policy to economic growth fluctuated until

the fourth period, then continued to be on the balance line.

The condition almost same as shown in the response to economic growth from fiscal policy shocks, as seen in Figure 2B. Fiscal policy shocks initially decreased until the second period but not too far from the balance line, then the next period continued to be on the balance line, until the tenth period. Fiscal policy shocks do not have a permanent impact on economic growth.

f. Contribution Test (Variance Decomposition)

To see and analyze the effectiveness of monetary and fiscal policies on economic growth in ASEAN-5, it is seen from the value of Variance Decomposition. Table 4 shows that, in general the variability of economic growth, both in the short and long term,

can be explained by shocks from monetary policy (other than itself) of 0.00% in the short term and 5.34% in the long term. the variability of economic growth in the short term is explained by fiscal policy shocks of 0.00%, while in the long term it is 0.49%. The conclusion

from this result is that, the most effective policy for economic growth in ASEAN-5 by monetary policy. This can be seen from the largest contribution of monetary policy to the variability of economic growth compared to fiscal policy.

Table 4. Variance Decomposition Test Results

Period	S.E.	EG	INF	G
1	1.666740	100.0000	0.000000	0.000000
2	1.713953	94.88214	4.724841	0.393022
3	1.766610	94.14894	5.477419	0.373644
4	1.816851	94.40979	5.180416	0.409795
5	1.825190	94.26161	5.327519	0.410870
6	1.838438	94.17353	5.399629	0.426844
7	1.846069	94.18658	5.361848	0.451568
8	1.849071	94.19749	5.344454	0.458055
9	1.852508	94.17234	5.351102	0.476561
10	1.854579	94.16027	5.345068	0.494658

Source: Processed by Eviews 9

Monetary policy is more effective against economic growth in Asean-5, because the policy of increasing the money supply will increase aggregate demand, increase prices, and eventually increase output. In carrying out policies, the monetary authority is of course careful in price policy (inflation), because if prices are not controlled, it will certainly worsen the economy. This research is agree with Research from (Abata, Kehinde, & Bolarinwa, 2012; Abdullahi & Omeiza, 2019; Adefeso & Mobolaji, 2010; Ajisafe & Folorunso, 2002; Ali et al., 2008; Evans, Adeniji, Kelikume, & Dakare, 2018; Hasan, Islam, Hasnat, & Wadud, 2016; Havi & Enu, 2014; Hsing, 2019; Idris, 2019; Jawaid, Arif, & Naeemullah, 2011; Musa, 2013; Rahman, 2009; Rakić & Rađenović, 2013; Şen & Kaya, 2015; Takyi, 2017; Younus, 2016), which found that, Monetary policy is more effective than fiscal policy on economic growth.

Fiscal policy is seen as less effective in this study, it does not mean

that fiscal policy in ASEAN-5 has not had any influence on economic growth, but the point is, the role of fiscal policies during the study period is less than monetary policy.

Given the irregular allocation of budget funds and non-productive expenditures by the fiscal authorities, the ineffectiveness of fiscal policy is not surprising. In addition, in an unstable market environment, the implementation of fiscal policy is highly determined and controlled by political forces.

Although the facts have proven that, monetary policy is more effective on economic growth in the five ASEAN countries, the use of appropriate fiscal policies, development spending which is more than non-development expenditure, can also improve economic indicators. If implemented properly, a careful combination of the two policies, can produce better results to boost economic growth. The results of this study found that, only maintaining effective and efficient monetary and fiscal policies can

lead to sustainable economic growth (development).

CONCLUSION

The conclusion of this study is that, the monetary policy is more effective on economic growth in ASEAN-5, compared to fiscal policy. The effectiveness of monetary policy compared to fiscal policy can be seen from the contribution of monetary policy shocks to the variability of economic growth rather than fiscal policy. Fiscal policy is considered ineffective in this study, it does not mean that fiscal policy in ASEAN-5 has not had any influence on economic growth, but the point is, the role of fiscal policy during the study period is less than monetary policy. Given the irregular allocation of budget funds and non-productive expenditures by the fiscal authorities, the ineffectiveness of fiscal policy is not surprising. In addition, in an unstable market environment, the implementation of fiscal policy is highly determined and controlled by political forces.

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