

HOW DO FISCAL-MONETARY POLICIES AFFECT ECONOMIC GROWTH?

THE CASE OF VIETNAM

Le Thanh Tung
Ho Chi Minh City Open University,
35-37 Ho Hao Hon street, Co Giang ward, District 1, Ho Chi Minh City, Vietnam

DOI: 10.13165/VPA-22-21-2-14

Abstract. This study investigates the mixed impact of fiscal-monetary policies on economic growth in Vietnam, an emerging economy in the Asia-Pacific region. The Vector autoregressive method (VAR), a quantitative technique, is employed on a quarterly database collected in 2004–2018. The cointegration test indicates a long-term cointegration relationship between these macroeconomic policies and the growth of gross output. The variance decomposition and impulse response function conclude that the impacts of these policies on economic growth are quite weak and faint. However, our results indicate that monetary policy is more significant than fiscal policy in supporting economic growth. The results imply that these economic policies may give priority to other macroeconomic objectives instead of promoting economic growth in the studied period. Hence, policymakers need to have more solutions to improve the efficiency of these policies in Vietnam in the future.

Keywords: economic growth, fiscal policy, monetary policy, VAR.

Reikšminiai žodžiai: ekonomikos augimas, fiskalinė politika, pinigų politika, VAR (vektorius autoregresyvumo metodas).

Introduction

Economic policies and their transmission have always been important topics in economics, both from the perspectives of academia as well as policy (Bernanke and Mihov 1998). Studies on the transmission mechanism of economic policies are useful in the context of the idea that the ‘invisible hand’ is not sufficient to ensure the efficient operation of the market economy. Economic policies have been understood as a ‘visible hand’ that helps to regulate the economy in making decisions relating to the allocation of scarce resources. Among economic policies, fiscal policy and monetary policy are seen as the main tools of governments in driving the economy towards efficiency, such as by achieving a high rate of economic growth (Sims 1994; Taylor 1995). Many countries take the correct route to economic growth and the development of society via the basic

platform of sufficiently taking advantage of the effects of monetary and fiscal policies (Blanchard and Perotti 2002). On the one hand, the cooperative effect focuses on the complementarity or substitutability of both policies on each other. On the other, the target of analysis is the conflicting or competing effect which focuses on the movement of both policies in opposite directions. The framework for the analysis of the interaction between two policies is based on competing or cooperating in a situation based on the matrix of game theory. However, measuring the effects of fiscal and monetary policy on macroeconomic indicators with precision has always been a challenge for policymakers (Bernanke and Mihov 1998; Barro and Redlick 2011), and a key reason why economic policies do not meet the government's initial goals.

An important goal of fiscal and monetary policy is to support and promote economic growth (Blanchard and Perotti 2002). To increase the efficiency of policies, policymakers need to clarify the mechanisms of transmission from policy tools to economic indicators in the country (Bernanke and Mihov 1998). Because of the importance of economic growth, the impact of each policy on the increased output of the economy must be investigated (Uhlig 2005; Hossain 2015). The analysis of the mixed impact of the fiscal-monetary policy mix on macro variables is necessary (Petrevski et al. 2016); however, the effects of policies are quite complex when they are used at the same time, which suggests mixed effects in a specific economy (Tule et al. 2020). Empirical studies with the use of macro-statistics are needed to identify the experiences of policymakers in order to observe the effectiveness in the next period (Dungey and Fry 2009; Oyebowale and Algarhi 2020). Therefore, studies at the country level are very useful in understanding the real impact of economic policies on important macroeconomic indicators of the economy. On the other hand, the transmission mechanism of economic policy is very different among economies because of diversity in socio-economic characteristics (Tule et al. 2020).

This paper uses a database from Vietnam, a transition country with a record of economic growth over the past three decades. Since 1986 (the beginning of the Doi Moi economic reform), Vietnam has achieved tremendous economic outlines, human development, and social improvement. Along with this, Vietnam is a highly open economy and is widely recognized as one of the most dynamic emerging countries in the East Asia region (World Bank 2021). On the other hand, following a robust orientation in terms of integration with the global market, the Vietnamese economy has many important commercial partnerships with countries worldwide. This study aims to identify the real mechanism of transmission from fiscal and monetary policies to growth output in this economy. To the best of our knowledge, there is no academic work that focuses on the mixed effect of fiscal-monetary policies on economic growth in the case of Vietnam. The experiences of Vietnam can be useful for other transition countries in moving towards a more effective policy governance framework.

Literature review

The mixed impact of monetary and fiscal policy on the economies of developing countries remains the subject of much debate. Obviously, these policies are common and important tools of government to regulate the economy. Recently, there have been a number of studies on the impact of these policies in promoting economic growth in developing countries; however, their results are diverse and different.

In an empirical study, Owoye and Onafowora (1994) analyzed the role of monetary and fiscal policies in ten African countries. Their empirical results supported the monetarist position that monetary policy is more important than fiscal policy in five of the ten countries. However, fiscal

policy was more important than monetary policy in the other five countries. Therefore, the authors concluded that a particular economic philosophy cannot be generalized for other countries in Africa. Mahfouz, Hemming, and Kell (2002) performed a review of theoretical and empirical literature on the effectiveness of fiscal policy. The central target of the study was the size of fiscal multipliers and the possibility that multipliers can turn negative. Their results concluded that fiscal multipliers are overwhelmingly positive but small, but that there is some evidence of negative fiscal multipliers.

Cheryl, Tracey, and Aristomene (2007) focused on public finance policies and the impact of these policies on economic growth in the transition countries of Europe and Central Asia. In the conclusion of their study, the authors provided suggestions on the revenue side of the budget, and looked in detail at two issues of particular importance in policy debates: income tax reforms and the level and structure of taxes on labor. Governments can avoid unmanageable revenue losses by implementing tax reforms during times of strong growth and within sound fiscal frameworks. Ali, Irum, and Ali (2008) identified the level of effectiveness of both fiscal and monetary policies in the case of four South Asian countries (Pakistan, India, Sri Lanka, and Bangladesh). The authors found a long-term relationship among the variables under consideration, and their results implied that monetary policy is a more powerful tool than fiscal policy in order to support economic growth in this group of countries.

Ali and Ahmad (2010) examined the impact of fiscal policy on economic growth and argued that expansionary fiscal policy and a high budget deficit are the causes of a decline in economic growth. Their results recommended a narrow band of 3–4 percent of GDP for budget deficits. If this threshold is exceeded, a negative impact of the budget deficit on economic growth can occur. Abdou et al. (2014) studied the relationship between fiscal policy and economic growth in developing Asian countries. Although the overall level of taxes and government spending in these countries are substantially lower than in advanced economies, the tools of fiscal policy (taxes and government spending) have a significant impact on economic growth in this region. Furthermore, the authors concluded that property taxes have a more benign impact on growth than direct taxes; on the other hand, more public spending on education has a significant positive impact on growth.

Bouakez, Chihi, and Normandin (2014) measured the effect of fiscal policy on a developed economy. The authors used government spending and tax revenue as proxy variables for fiscal policy. Their results show that an increase in public spending is more effective than tax cuts in stimulating economic activities. With a mixed fiscal-monetary policy model using data from China, Jia, Guo, and Wang (2015) found that the trade-offs faced by policymakers involve not only the stabilization of output, inflation, and real exchange rates, but also government debt stability. Their results showed that the identification of the sources of shocks has important implications for trade-offs. Čorić, Šimović, and Deskar-Škrbić (2015) identified the mixed impact of fiscal and monetary policy on economic growth as well as price stability in Croatia. Their study found that both fiscal and monetary policy have a positive effect on economic growth in this country. Petrevski, Bogoev, and Tevdovski (2016) identified the impact of fiscal-monetary policy on macroeconomic variables in three South-Eastern European economies. Their results showed that an expansionary fiscal policy has a positive impact on economic growth, and that monetary policy is highly effective in the operation process.

Petrevski, Trenovski, and Tashevska (2019) investigated the effect of fiscal and monetary policy in Macedonia. The authors concluded opposing effects of these policies on economic growth – more specifically, that public spending reduces economic activities but tax revenue has a positive

effect on gross output. On the monetary policy side, these results point out that an increase in interest rates reduces economic activities. Nguyen (2020) analyzed the impact of monetary policy on the gross output of emerging and developing countries in the 2001–2014 period. Their study showed that contractionary monetary policy can reduce national products, and that the negative effect of a monetary contraction on output will be stronger in countries with high inflation. Oyebowale and Algarhi (2020) analyzed macroeconomic variables that affect economic growth in 21 developing African countries. Some monetary and fiscal policy tools were included in the quantitative model, including government spending and money supply. Their results indicated that government spending has a positive effect on promoting economic growth in the long run; however, the impact of monetary supply on growth is not statistically significant. Tule, Onipede, and Ebuh (2020) estimated the cooperated impact of the fiscal-monetary policy on the Nigerian economy over the 2003–2017 period. Their results implied that an expansionary monetary policy has a positive effect on the economy – on the other hand, an expansionary fiscal policy does not automatically affect economic growth.

Methodology and Data Description

The mixed effect of fiscal and monetary policies has an important role in supporting the growth rate of national output. In order to achieve the research objectives, this paper applies the Vector autoregressive model (VAR) to analyze the impact of fiscal and monetary policies on economic growth (Sims 1994; Stock and Watson 2001). A general VAR model can be written in the following form.

$$x_t = AY_t + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \dots + \beta_k x_{t-k} + \varepsilon_t \quad (1)$$

Where: Y is a vector of fiscal and monetary variables, and is constant; β and A are the matrices of the coefficients to be estimated; k is the optimal lag of the VAR function; and ε_t is a vector of error terms. The econometric equation which includes the impact of fiscal and monetary policies on economic growth is presented as:

$$\text{GRGDP}_t = f(\text{TAX}_t, \text{GE}_t, M_t, \text{EXCH}_t) \quad (2)$$

Where: the dependent variable GRGDP is the growth rate of the gross domestic product at the constant price. There are four independent variables: tax revenue, TAX, and government expenditure, GE (representing the effect of fiscal policy); and money supply, M, and exchange rate, EXCH (representing the effect of monetary policy).

Our estimated strategy is presented in three main steps. First, the variables will be checked for the stationary or non-stationary phenomenon via different testing methods. Based on the testing results, these time-series variables can be estimated at the level or by using the first differences of the time-series dataset. Second, the Johansen cointegration test (Johansen 1988) is employed to identify the existence of a long-term cointegration relationship between variables. This test allows us to conclude more than one cointegrating relationship between variables, and so is more generally applicable than other tests which are based on the Dickey-Fuller (or the augmented) test for unit roots in the residuals from a single cointegrating relationship. Third, the VAR function will be computed at an optimal lag chosen by the reference of some citation values. The impact of fiscal and monetary policy on economic growth can be investigated by Variance Decomposition analysis and Impulse response functions.

To estimate the VAR function, we use a quarterly database collected in the fifteen years from 2004 to 2018. The sample contains 60 observations. The growth rate of gross domestic products (GRGDP) is sourced from the General Statistics Office of Vietnam (GSO). The unit of GRGDP is percent. Tax revenue (TAX) and government expenditure (GE) data are collected from the Min-

istry of Finance of Vietnam (MOF), and the money supply (M) data is broad money supply (M2) sourced from the State Bank of Vietnam (SBV). The unit of tax revenue, government expenditure, and money supply is the thousand billion Vietnamese dong. Finally, the exchange rate (EXCH) data is the nominal exchange rate between the Vietnamese dong and the US dollar. The nominal exchange rate is collected from the State Bank of Vietnam. Except for the exchange rate, all time-series variables are converted to real values by constant price before being put into the process. A brief review of the database is shown in the following table and the figures.

Table 1. Descriptive statistics of the variables

STATISTIC	GRGDP	TAX	GE	M	EXCH
Mean	177.5	46.15	51.69	958.9	19.3
Maximum	416.6	84.27	85.36	2074	23.3
Minimum	71.51	26.29	6.826	262.7	15.7
Std. Dev.	81.24	12.92	16.65	530.7	2.76
Observations	60	60	60	60	60
Statistic	DGRGDP	DTAX	DGE	DM	DEXCH
Mean	5.850	0.982	0.870	30.71	0.12
Maximum	98.68	26.05	57.66	173.7	1.21
Minimum	-152.7	-20.33	-68.81	-99.33	-0.13
Std. Dev.	46.30	7.470	18.42	39.52	0.25
Observations	59	59	59	59	59

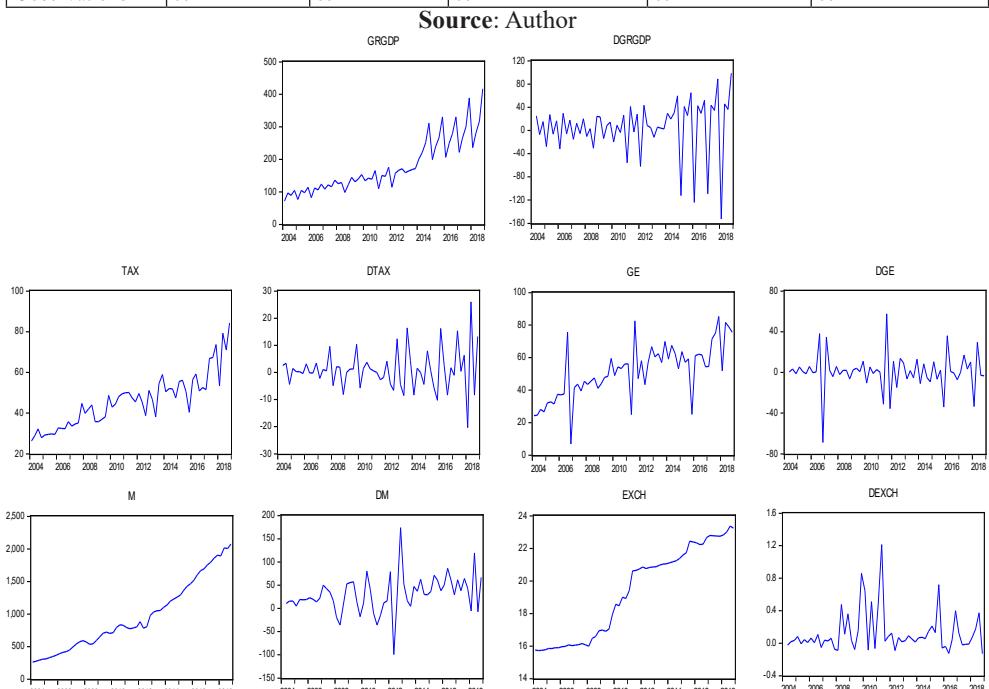


Figure 1. Level and first-difference graphs of variables

Source: Author

Results and Discussion

Following our estimated strategy, the Augmented Dickey–Fuller (ADF) testing method is employed for testing the unit root of the variables. We chose this testing method because it allows less restrictive assumptions for the time series than others. There are three conditions used for testing: (i) with constant; (ii) with a trend and constant; and (ii) without constant. Based on the testing results, only the money supply is stationary at a significance level of 1% (with intercept, and without constant model), while the remaining variables are non-stationary. The growth rate of GDP, tax revenue, and government expenditure is stationary at a significance level of 1%; however, these results are confirmed with a trend and a constant condition. Finally, testing for the first difference shows that these variables are stationary at a significance level of 1%. These testing results suggest that the VAR function should be estimated by the first difference data of the variables (Stock and Watson 2001). The unit root test results are summarized in the table below.

Table 2. The results of unit root test for the variables

In levels			
Variables	With constant	With a trend and constant	Without constant
Growth rate of GDP (GRGDP)	-0.893278	-4.664446***	1.774550
Tax revenue (TAX)	0.497634	-5.963343***	2.615185
Government expenditure (GE)	-0.295770	-7.743336***	3.127387
Money supply (M)	6.352319***	0.918536	12.13070***
Exchange rate (EXCH)	-0.087253	-1.725585	3.864370
In first differences			
Variables	With constant	With trend and constant	Without constant
ΔGrowth rate of GDP (DGRGDP)	-10.20209***	-10.07467***	-9.74200***
ΔTax revenue (DTAX)	-3.943663***	-3.970472**	-1.464415*
ΔGovernment expenditure (DGE)	-7.568400***	-7.557685***	-14.97634***
ΔMoney supply (DM)	-5.454690***	-8.559228***	0.607935
ΔExchange rate (DEXCH)	-6.550527***	-6.494788***	-5.404405***

Note: ***, **, and * represent a significance level at 1%, 5%, and 10%, respectively. Lag length is 10 periods

Source: Author

A cointegration test is always used to establish whether there is a correlation between time series in the long run. In this study, the Johansen cointegration test (Johansen 1988) is employed to examine the possible cointegration vectors between the variables in the VAR function. The first different dataset is used for the test. Based on the testing results, the null hypothesis of no cointegration vector between the variables is rejected at a 1% significance level. Both the trace test and the max-eigenvalue test also confirm the existence of, at most, five cointegration vectors among the variables at a 1% significance level. Hence, the testing results imply that a long-term relationship exists between economic growth and the fiscal and monetary policy variables in Vietnam in the studied period. The brief results of the Johansen test are summarized in the table below.

Table 3. The results of the Johansen cointegration test

Series: DGRGDP DTAX DGE DM DEXCH				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized	Eigenvalue	Trace	0.01	Prob.**
No. of CE(s)		Statistic	Critical Value	
None *	0.771801	242.3910	77.81884	0.0000
At most 1 *	0.686577	158.1713	54.68150	0.0000
At most 2 *	0.512200	92.03986	35.45817	0.0000
At most 3 *	0.417336	51.12237	19.93711	0.0000
At most 4 *	0.300045	20.33412	6.634897	0.0000
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized	Eigenvalue	Max-Eigen Statistic	0.01	Prob.**
No. of CE(s)			Critical Value	
None *	0.771801	84.21974	39.37013	0.0000
At most 1 *	0.686577	66.13141	32.71527	0.0000
At most 2 *	0.512200	40.91748	25.86121	0.0000
At most 3 *	0.417336	30.78825	18.52001	0.0001
At most 4 *	0.300045	20.33412	6.634897	0.0000

Note: * denotes rejection of the hypothesis at 1%

Source: Author

Because of the limit of observation in the study sample, a VAR model is specified in order to determine the optimum number of lags in the variables used. The optimal lag length can be chosen by applying and comparing various lag length selection criteria, including LR (Sequential modified LR test), FPE (Final prediction error test), AIC (Akaike information criterion test), HQ (Hannan–Quinn information criterion test), and SC (Schwarz information criterion test). Based on the calculated results, there are various suggestions: the SC criteria suggests no lag; the LR, FPE, and HQ confirm three lags; and the AIC shows five lags. Due to the limit in the freedom of degrees in our time-series database, we decided to choose three lags as the optimal lag length for the estimated process of the VAR function.

Table 4. The optimal lag length criteria for the VAR function

VAR lag order selection criteria. Endogenous variables: DGRGDP DTAX DGE DM DEXCH					
Lag	LR	FPE	AIC	SC	HQ
0	NA	4.37e+09	36.38849	36.57265*	36.45951
1	67.79931	2.70e+09	35.90193	37.00692	36.32808
2	49.52321	2.21e+09	35.67615	37.70197	36.45743
3	62.45871*	1.15e+09*	34.95843	37.90507	36.09483*
4	32.90374	1.21e+09	34.88727	38.75474	36.37880
5	27.50726	1.42e+09	34.83079*	39.61909	36.67745

Note: * indicates lag order suggested by the criteria

Source: Author

The econometric model should then be checked for the fitting of conditions. The VAR function will be estimated at three lags, after which the structural equation will be performed for some diagnostic tests. The testing results indicate that the VAR model is correctly specified and stable. More specifically, the graph of the unit cycle shows that all points are totally located within the unit cycle. Both the Lagrange-Multiplier (LM) test and Residual Heteroskedasticity test confirm that the model is free of the serial correlation problem and the heteroskedasticity phenomenon. Based on these indicators, we can conclude that this VAR function is appropriate for identifying the impact of fiscal and monetary policy on economic growth in Vietnam. A discussion on the mixed impact of fiscal and monetary policies on economic growth follows, based on the variance decomposition technique and the accumulated impulse-response functions from the VAR function.

Table 5. The result of the Lagrange Multiplier (LM) and Residual Heteroskedasticity test

VAR Residual Serial Correlation LM Tests. Null Hypothesis: no serial correlation at lag order h		
Lags	LM statistic	Prob
1	33.13437	0.1277
2	22.90437	0.5831
3	22.61733	0.5999
4	33.30373	0.1236
5	25.38790	0.4408
6	31.84733	0.1625
VAR Residual Heteroskedasticity Tests		
Joint test		
Chi-sq	df	Prob.
441.0759	450	0.6092

Source: Author

Following the estimated VAR result, the impact of these policies on economic growth will be analyzed based on variance decomposition and the impulse response function. In the quantitative technique, fiscal variables are presented by tax revenue and government expenditure, while monetary variables are denoted by money supply and exchange rate. The duration chosen for variance decomposition analysis is 10 quarters (2.5 years).

This section analyses the fiscal and monetary policy tools affecting economic growth in Vietnam using the variance decomposition technique. The results show that fiscal policy causes 0.004% of the volatility in DGRGDP in the short run, and 8.21% in the long run. Monetary policy accounts for 4.59% of the fluctuation of DGRGDP in the short run, and 10.95% in the long run. In total, these policies affect 4.594% of the variation in DGRGDP in the short run, and 19.16% in the long run. Based on the variance decomposition results, the effect of monetary policy was more robust than that of fiscal policy in supporting economic growth over the study period. More specifically, the change in DGRGDP affected by the variation of tax revenue is 0.001% in the short run, and 7.01% in the long run. Government expenditure affects 0.002% of the fluctuation of DGRGDP in the short run, and 1.199% in the long run. On the other hand, money supply affects 4.58% of the fluctuation of DGRGDP in the short run, and 8.75% in the long run. Finally, the exchange rate explains 0.001% of the fluctuation of DGRGDP in the short run, and 2.208% in the long run. Variance decomposition analysis results indicate that Vietnamese fiscal and monetary policy may be transmitted to the growth of gross output through their tools but that their effectiveness is not

significant, at least in the short run. The decomposition results show that, of the two, money supply is the larger source of fluctuation in the economic growth of Vietnam. However, the empirical evidence confirms that these effects are weak and valid only in the long run. These findings can be interpreted to suggest that fiscal and monetary policy tools would have limited impact on the growth rate of gross output in Vietnam. The findings from the variance decomposition analysis of the variables totally correlate with the results of the impulse response functions.

Table 6. Variance decomposition analysis

Variance Decomposition of DGRGDP. The Cholesky ordering: DGRGDP DTAX DGE DM DEXCH						
Period	S.E.	DGRGDP	DTAX	DGE	DM	DEXCH
1	25.16223	100.0000	0.000000	0.000000	0.000000	0.000000
2	33.78302	95.40409	0.001309	0.002758	4.589954	0.001887
3	34.13899	93.80845	0.002870	0.048817	4.566475	1.573384
4	35.39531	87.65064	3.082508	0.175123	7.126341	1.965388
5	43.45008	87.95809	4.903238	0.486804	4.854933	1.796931
6	48.29254	85.96076	4.107965	0.494422	7.941162	1.495689
7	48.84725	84.06600	4.313720	0.610695	8.675250	2.334332
8	50.13739	80.75586	7.131358	1.181629	8.559525	2.371631
9	55.68045	81.60842	7.634479	1.328021	7.044388	2.384692
10	58.58843	80.82066	7.019881	1.199467	8.751898	2.208090

Source: Author

The impulse response function is a helpful tool to analyze the impact of fiscal and monetary policy on economic growth in Vietnam. More specifically, the impulse response functions which show the response of DGRGDP in the research model to one standard deviation shock in the DTAX, DGE, DM, and DEXCH variables are provided below. The impulse response functions are discussed as they are seen in the graphs. The combination of impulse response functions and variance decomposition provide further evidence. There are five graphs that represent the impact of policy tools on economic growth in the study period. The impacts of tax revenue and government expenditure are shown in the graphs of the response of DGRGDP to DTAX and the response of DGRGDP to DGE. The graph showing the response of DGRGDP to DM indicates the effect of money supply on economic growth, and the graph showing the response of DGRGDP to DEXCH presents the effect of the exchange rate on DGRGDP. Finally, the response of DGRGDP to DGRGDP shows the impact of DGRGDP on itself. The quantitative results indicate that for GRGDP, the dominant source of forecast error variance is its own innovation, accounting for 80.8% of variance over the 10-quarter time horizon.

Following impulse response analysis, the effects of policy tools on economic growth are small. The inside lag and outside lag of fiscal policy are quite long. After three quarters, tax starts to create a wave response in the growth of output, and an increase in tax results in a decrease in the economic growth values in the fourth period. After this, economic growth returns to a balanced situation in the long run. On the other hand, government expenditure did not have an important role in supporting economic growth because the effect of this tool was too small and suffered too much lag. In contrast, monetary policy had a more robust effect on fiscal policy, especially in terms of the impact of the money supply tool. An increase in money supply help policymakers to

create an increase in economic growth in the first period; however, economic growth will decrease and return towards a balance in the long run. The exchange rate also has a faint impact on economic growth, in which the response of the output is weak and returned towards a balance in the long run. However, these graphs continuously indicate that the largest positive effect on economic growth comes from economic growth itself. This is clear, as for the impulse response function of DGRGDP generated from the growth rate of gross output shock, growth robustly rises following previous output shock. These responses are statistically significant, and they are the largest values in the graphs.

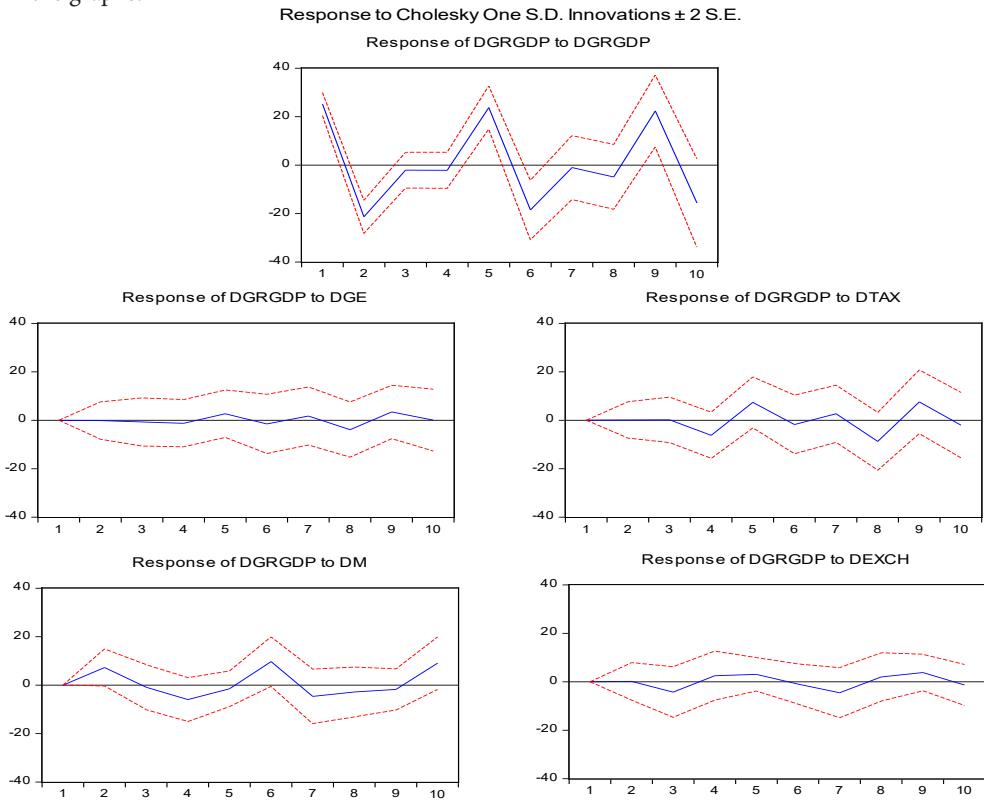


Figure 2. Impulse response functions of DGRGDP

Source: Author

The quantitative results show that all of the primary tools of fiscal and monetary policies have contributed to the up-and-down fluctuation in the growth rate of gross output in Vietnam. The impulse response functions imply that DGRGDP positively responds to policy shocks, suggesting that economic growth is influenced by policy tools; however, these effects are quite limited and weak. The impacts of fiscal and monetary policy are conflicting or competing effects, which show the movement of both policies in opposite directions to each other. This evidence is in-line with the reality of Vietnam's economy, which much depends on foreign direct investment and

export activities. Economic policies did not have the leading role in supporting economic growth over the study period. Based on a socialist-oriented market economy, the policymakers of Vietnam have organized the economy based not only on the principles and rules of a market economy but also on the principles and characteristics of market regulation rules. As such, fiscal and monetary policy have a market regulation role rather than supporting economic growth in Vietnam over the study period.

Conclusions

This article investigated the impact of fiscal and monetary policy on economic growth in Vietnam in 2004–2018. The VAR methodology was employed to analyze the effects of policy on the growth rate of gross output. Our results show that monetary policy is more significantly motivating than fiscal policy on economic growth in Vietnam. However, the effects of these two policies on the growth of output is quite small and faint. Furthermore, the interaction of these two policies is not complementary, and there is no substitutability of these policies towards each other, which implies a conflicted relationship among them. These results are trustworthy because Vietnam's economy is based on a socialist-oriented market model, so these policies play a market regulation role rather than supporting economic growth. In addition, close coordination among policy-making agencies is essential to ensure mutual support among policies when they are implemented in parallel. Because the domestic economy is linked with the global market, economic policies are always affected by outside fluctuation. However, the goals of economic policies need to be closely related to a long-term development strategy; therefore, policymakers should consider their policy in response to the market. Policymakers also need to have a practical strategy to use these policies as effective tools which help to drive economic growth in the future. For further research directions, economic policy needs to expand to other elements of the national economic system such as the labor market, government budget, national ownership, or other areas of government interventions into the economy.

References

1. Abdon, A., Estrada, G.B., Lee, M., and Park, D. 2014. *Fiscal Policy and Growth in Developing Asia*. ADB Economics Working Paper Series. No 412. <https://www.adb.org/sites/default/files/publication/110986/ewp-412.pdf>
2. Ali, S., and Ahmad, N. 2010. "The effects of fiscal policy on economic growth: Empirical evidences based on times series data from Pakistan." *The Pakistan Development Review* 49 (4): 497–512.
3. Ali, S., Irum, S., and Ali, A. 2008. "Whether Fiscal Stance or Monetary Policy is Effective for Economic Growth in Case of South Asian Countries?" *The Pakistan Development Review* 47 (4): 791–799.
4. Barro, R.J., and Redlick, C.J. 2011. "Macroeconomic effects from government purchases and taxes." *The Quarterly Journal of Economics* 126 (1): 51–102.
5. Bernanke, B., and Mihov, I. 1998. "Measuring monetary policy." *Quarterly Journal of Economics* 113 (3): 869–902.
6. Blanchard, J.O., and Perotti, R. 2002. "An empirical characterization of the dynamic effects of changes in government spending and taxes on output." *Quarterly Journal of Economics* 107 (4): 1329–1368.
7. Bouakez, H., Chihi, F., and Normandin, M. 2014. "Measuring the effects of fiscal policy."

- Journal of Economic Dynamics and Control* 47: 123–151.
- 8. Čorić, T., Šimović, H., and Deskar-Škrbić, M. 2015. “Monetary and fiscal policy mix in a small open economy: the case of Croatia.” *Economic Research-Ekonomska Istrazivanja* 28 (1): 407–421.
 - 9. Cheryl, G., Tracey, L., and Aristomene, V. 2007. *Fiscal Policy and Economic Growth: Lessons for Eastern Europe and Central Asia*. Washington DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/68>
 - 10. Dungey, M., and Fry, R. 2009. “The identification of fiscal and monetary policy in a structural VAR.” *Economic Modelling* 26: 1147–1160.
 - 11. GSO (General Statistics Office of Vietnam). 2021. *Statistics (National accounts) database*. http://www.gso.gov.vn/Default_en.aspx?tabid=766
 - 12. Hossain, A.A. 2015. “Inflation volatility, economic growth and monetary policy in Bangladesh.” *Applied Economics* 47 (52): 5667–5688.
 - 13. Jia, J., Guo, J., and Wang, Z. 2015. “The Fiscal-Monetary Policy Mix and Exchange Rate Stability: A Dynamic Stochastic General Equilibrium Model With Chinese Characteristics.” *Emerging Markets Finance and Trade* 51 (4): 729–746.
 - 14. Johansen, S. 1988. “Statistical Analysis of Cointegration Vectors.” *Journal of Economic Dynamics and Control* 12 (2–3): 231–254.
 - 15. Mahfouz, S., Hemming, R., and Kell, M. 2002. *The effectiveness of fiscal policy in stimulating economic activity: a review of the literature*. Working paper WP/02/208. International Monetary Fund.
 - 16. Nguyen, T.M.L. 2020. “Output Effects of Monetary Policy in Emerging and Developing Countries: Evidence from a Meta-Analysis.” *Emerging Markets Finance and Trade* 56 (1): 68–85.
 - 17. Oyebowale, A.Y., and Algarhi, A.S. 2020. “Macroeconomic determinants of economic growth in Africa.” *International Review of Applied Economics* 34 (6): 839–857.
 - 18. Owoye, O., and Onafowora, O.A. 1994. “The relative importance of monetary and fiscal policies in selected African countries.” *Applied Economics* 26 (11): 1083–1091.
 - 19. Petrevski, G., Bogoev, J., and Tevdovski, D. 2016. “Fiscal and monetary policy effects in three South Eastern European economies” *Empirical Economics* 50 (2): 415–441.
 - 20. Petrevski, G., Trenovski, B., and Tashevska, B. 2019. “The effectiveness of fiscal and monetary policies in a small open economy – the case of Macedonia.” *Post-Communist Economies* 31 (6): 805–821.
 - 21. Sims, C.A. 1994. “A simple model for study of the determination of the price level and the interaction of monetary and fiscal policy.” *Economic Theory* 4 (3): 381–399.
 - 22. Stock, J.H., and Watson, M.W. 2001. “Vector autoregressions.” *The Journal of Economic Perspectives* 15 (4): 101–115.
 - 23. Taylor, J.B. 1995. “The Monetary Transmission Mechanism: An Empirical Framework.” *The Journal of Economic Perspectives* 9 (4): 11–26.
 - 24. Tule, M.K., Onipede, S.F., and Ebuh, G.U. 2020. “Monetary and fiscal policy mix in a small open economy: Evidence from Nigeria.” *Scientific African* 8, e00346.
 - 25. Uhlig, H. 2005. “What are the effects of monetary policy on output? Results from an agnostic identification procedure.” *Journal of Monetary Economics* 52 (2): 381–419.
 - 26. World Bank. 2021. *The World Bank in Vietnam: Overview*. <http://www.worldbank.org/en/country/vietnam/overview>

Le Thanh Tung

Kaip fiskalinė pinigų politika lemia ekonomikos augimą? Vietnamo atvejis

Anotacija. Šiame tyrime analizuojamas mišrios fiskalinės ir pinigų politikos poveikis ekonomikos augimui Vietname – kylančioje Azijos ir Ramiojo vandenyno regiono ekonomikoje. Vektoriaus autoregresyvumo metodas (VAR) naudojamas kiekybinei metodikai su ketvirtine duomenų baze, kuri buvo renkama ir formuojama 2004–2018 m. Kointegracijos testas rodo ilgalaikį kointegracijos ryšį tarp pateiktų makroekonominiių politikos krypčių ir bendrosios produkcijos augimo. Pasitelkus dispersijos dekompoziciją ir impulsinio atsako funkciją daroma išvada, kad šios politikos poveikis ekonomikos augimui yra gana silpnas. Tačiau tyrimo rezultatai rodo, kad pinigų politika labiau nei fiskalinė politika remia ekonomikos augimą. Rezultatai atskleidžia, kad ekonomikoje tiriamuoju laikotarpiu galima teikti pirmenybę kitiems makroekonominiams tikslams, o ne vien tik skatinti ekonomikos augimą. Taigi politikos formuotojai Vietname turi rasti daugiau sprendimų dėl to, kaip ateityje pagerinti šios politikos veiksmingumą.

Le Thanh Tung, mokslų daktaras, Hošimino atvirojo universiteto Ekonomikos ir viešojo valdymo fakulteto politikos ir taikomosios ekonomikos tyrimų grupės prodekanas, docentas, Hošiminės, Vietnamas.

E. paštas: tung.lt@ou.edu.vn

Le Thanh Tung – PhD, associate professor, vice dean of the Policy and Applied Economics Research Group at the Faculty of Economics and Public Management at Ho Chi Minh City Open University, Ho Chi Minh City, Vietnam.
E-mail: tung.lt@ou.edu.vn