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The effectiveness of fiscal policy: contributions from institutions and external debts

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Abstract

Purpose – The effectiveness of fiscal policy is an interesting field in literature of macroeconomics. The purpose of this paper is to investigate the effects of fiscal policy on economic growth under contributions from the differences in institutions and external debt levels.

Design/methodology/approach – The authors use panel data from 2002 to 2014 from 20 emerging markets and use GMM estimators for unbalanced panel data.

Findings – The results show positive growth effects of fiscal policy across emerging markets in the examined periods. Notably, the improvement in institutions promotes higher crowding-in effects of fiscal policy. In addition, this paper finds interesting evidences that the external debt has non-linear effects on economic growth, whereas the heterogeneous effects of fiscal policy on economic growth as positive effects in low indebted level and negative effect in high indebted level may explain the mechanism of this non-linear relationship.

Originality/value – This study proposes the non-linear relationship of fiscal growth effects in emerging economies under the dynamic of debt levels.

Keywords Institutions, Effectiveness, Fiscal policy, External debt

Paper type Research paper

1. Introduction

The field of the effectiveness of fiscal policy has re-highlighted in light of the 2008 global financial crisis with the new contemporary drivers such as external debt (Ruščáková and Semančíková, 2016). Due to the complexity of the fiscal process by which it is not fully captured, different theories provide different answers regarding macroeconomic effects of fiscal policy and arguments about the suitability and real effects of government expenditures on economic growth which are still interesting field of study (Bouakez *et al.*, 2014). Whereas, the main question in the literature of the fiscal policy's effectiveness is that whether fiscal policy presents crowding-out and/or crowding-in effects in a country and what its drivers. In fact, many researchers try to find evidences with the parallel existence of both and mixed conclusions (see Ahmed and Miller, 2000; Heutel, 2014; Şen and Kaya, 2014).

The effects of fiscal policy on economic growth are driven by many factors such as the employment in the economy, the transparency of government, the composition of government expenditures, or even the government size (see Kasselaki and Tagkalakis, 2016; Hemming *et al.*, 2002). In empirical literature about the determinants of fiscal policy's effectiveness, there are, in fact, some studies that consider the role of institutional framework such as corruption situation, economic freedom, democracy (see Baldacci *et al.*, 2004; Martinez-Vazquez *et al.*, 2007). Meanwhile, the burdens of external debt on the

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sustainability of fiscal policy are also concerned. For instance, Amato and Tronzano (2000) find the evidence that the debt maturity and the share of foreign-denominated debt are crucial determinants of exchange rate stability in Italia. Bal and Rath (2014) find that Indian economic growth is impacted by central government debt, total factor productivity growth, and debt-services in the short-run. Recent study, Doğan and Bilgili (2014) find that external borrowing has negative impact on growth both in regime at zero and regime at one, but the public debt has higher negative effects on economic growth and development, thus they conclude a non-linear relationship between economic development and borrowing variables. However, the literature of fiscal policy is lacking of the studies about the effectiveness of fiscal policy under the contributions from the institutions and external debts in a comprehensive work. Therefore, this study is conducted under the motivations from the study of Doğan and Bilgili (2014) by investigating the effectiveness of fiscal policy on economic growth under the relationships with the changes in the institutions and the burdens of external debt in the context of 20 emerging markets including Argentina, Bangladesh, Brazil, Bulgaria, China, Colombia, Egypt, India, Indonesia, Malaysia, Mexico, Pakistan, Peru, Philippines, Romania, Russia, South Africa, Thailand, Turkey, and Vietnam.

In this paper, we achieve our objectives by implementing following strategy. We first examine the impacts of fiscal policy on economic growth through the modified model of endogenous growth theory by incorporating government expenditure and controlling other common drivers of economic growth including capital, labor, financial development, technology, economic openness (trade and capital flows). Then, the institutional factors including government effectiveness, regulatory quality, and control of corruption are incorporated, respectively, to test the impacts of institutions on economic growth. Next, we use the interaction terms between government expenditure and institutions to examine the effectiveness of fiscal policy under the associations of institutional framework. We then estimate the growth model with the explanatory variables including both external debt level to GNI and its square to examine the non-linear relationship between external debt and economic growth. After that, we divide our data into two sub-samples (the low indebted countries and high indebted countries) to investigate the effectiveness of fiscal policy under two regimes.

By doing this strategy, we believe that this study has significant contributions to both theory and practice. First, this study has contribution to the literature of fiscal policy effectiveness and fiscal indebtedness by adding the effects of government expenditures under the external debt level and the associations with institutional quality. The results find significant evidences that the institutions enhance the effectiveness of fiscal policy. Notable, the external debt level presents the non-linear relationship with economic growth through the mechanism that the fiscal policy has the heterogeneous effects on economic growth: the crowding-in effect in low indebted level and crowding-out effects in high indebted one. Second, this study has significant implications for the authorizers in implementing the long-term sustainable fiscal policy in line with borrowing policy and the solutions for the high indebted countries that face to the dilemma of ineffective fiscal policy.

This paper is structured as following. Section 1 states our motivations of this study. Section 2 briefly presents literature reviews and then our arguments on the effectiveness of fiscal policy under the contributions from institutions and external debt. Methodology and data are provided in Section 3. Section 4 presents the results and our discussions. The concluding remarks are discussed in Section 5.

2. Literature reviews

The fiscal policy is considered with a wide range of literature, while the effectiveness of fiscal policy is seen under its' impacts on the economic growth and the long-term sustainable development. In the literature of fiscal policy effectiveness, it is natural place to start with the Keynesian theory. In Keynesian model, the sticky price and excess capacity are assumed

that contraries to the classical economics, so that aggregate demand determines output and government expenditures have a multiplier effect on aggregate demand and output (Coddington, 1976). This view is also called as the crowding-in effects of fiscal policy, where the government should undertake the expenditure in the recession time to cover the lack of private consumption and investment (Jahan *et al.*, 2014). However, some of extensions in the line of Keynesian model allow for crowding-out effects of fiscal policy, which means the expansion of government expenditure crowds out the private demand and then influences negatively on output, through the changes in interest rates and exchange rate in the case of open economy. With the assumption that the private investment is negative impacted by the increase in interest rate, the expansionary fiscal policy that backed by borrowing leads to the lower private investment due to higher interest rates (see Mundell, 1963; Fleming, 1962).

The neo-classical views focus on the determination of goods, outputs, and income distributions in markets through both supply and demand sides by adding the assumption of utility maximization of income-constrained individuals and firms under the boundary of factors in production and available information (see Davis, 2006). In which, the neo-classical economics raise the rational expectations in comparing to the adaptive expectations in Keynesian economics. This brings forward adjustments in economic factors that occur more progressively so that fiscal policy matters in not only long-term but also short-term period. And the permanent fiscal changes can lead to the crowding-out effects since private sectors expect the persistent changes in interest rates and exchange rates in this case (see Buiter, 1977; Arestis, 1979; Mundell, 1963; Fleming, 1962).

In addition to neo-classical economics, the Ricardian view that is based on Ricardian equivalence theorem assumes that the individuals are forward-looking in the current activities, which is also in contrasting with the Keynesian economics view as individuals rely on current income (see Barro, 1989; McCallum, 1984). In Ricardian view, individuals anticipate a present tax cut as higher government borrowing that turns into the higher taxes in the future so that there is no change in permanent income. This condition in along with the assumptions of no liquidity constraints and perfect financial markets lead to no change in private consumption in general (Barro, 1974). Thus, Ricardian view suggests neither crowding-in nor crowding-out effects of fiscal policy (Arestis, 2011; Şen and Kaya, 2014). However, if governments change lump-sum taxes for the fiscal policy, the features of progressive taxes will have impacts on permanent income and then the aggregate demand and output. As a result, the effectiveness of fiscal policy most likely depends on how it is paid in the future and the productivity of government expenditures (Hemming *et al.*, 2002).

All above economic views require assumptions to be presence such as no liquidity constraints, perfect financial markets in Ricardian equivalence. However, these assumptions are usually un-existed thus the significance of theories is questioned in both theory and practice (Haque and Montiel, 1989). Furthermore, there are some cases that the effectiveness of fiscal policy is explained by all of these views. For instance, if government is restricted by the fiscal rules to balance the fiscal budget in the long run, thus individuals may partial adjust their behaviors if they have short-term horizon which presents the presence of both Ricardian and neo-classical views. In the same idea, if the current path of government debt is not sustainable and future tax increases will be required to lower the debt, the Ricardian view may be presence in expansionary fiscal policy seemingly with the Keynesian view which depends on the level of public debt (Sutherland, 1997). Or, if the government expenditure is in line of an upward-trending stochastic process that individuals believe a sharply fall when it approaches a specific "target point," there will be a non-linear relationship between private consumption and government expenditure (Bertola and Drazen, 1993). Therefore, the argument of a non-linear relationship between fiscal policy and economic growth makes sense in literature. However, the literature needs the explanations for the mechanism and empirical evidences.

Many previous studies have investigated the effects of fiscal policy in many countries, especially in advanced countries such as USA, Japan, European area[1]. Recently, Afonso and Strauch (2007) find that the European fiscal policy makes market swap spreads response in mostly around five basis points or less in 2002. Similarly, the study of Kameda (2014a) finds that an increasing of 26-34 basis points in real ten-year interest rates in responding to a percentage point increase in both the projected/current deficit-to-GDP ratio and projected/current primary-deficit-to-GDP ratios in Japan. Kameda (2014b) documents that the diffusion index of the attitudes of financial institutions have a definite impact on fiscal expansion effects. In particular, the government expenditure has non-Keynesian effects under the demand-enhancing effects if the existence of liquidity-constrained households when banks' attitude toward lending is tight and the fiscal condition is bad. Bhattarai and Trzeciakiewicz (2017) use a DSGE analysis to examine the fiscal policy in UK. They note the highest GDP multipliers for government consumption and investment in the short-run, whereas capital income tax and public investment have long-run crowding-out effect on GDP. Moreover, they emphasize that the fiscal policy presents decreasing effects in a small open-economy scenario.

Besides the presence of plentiful empirical literature in the effectiveness of fiscal policy, this field of study got much less evidence on the short-term effects in developing countries due to data deficiencies, the structural/institutional factors in the last century (see Hemming *et al.*, 2002). For instance, Haque and Montiel (1989) find that the Ricardian equivalence is not supported in the developing countries due to liquidity constraints. Montiel and Haque (1991) go further by using the Mundell-Fleming model with rational expectations and full employment for 31 developing countries and conclude that the increasing of government expenditures have contractionary short-term and medium-term effects. Previous, Khan and Knight (1981) find positive nominal income elasticities of government expenditures and taxes and they are close to unity in 29 developing countries. Then, other empirical studies such as Easterly *et al.* (1994) document evidences that fiscal policy has crowding-out effects on private investment through the impacts on interest rates in developing countries. Meanwhile, empirical studies also provide evidences supporting for partial or/and fully existences of the Ricardian equivalence in developing countries such as Masson *et al.* (1995), Giavazzi *et al.* (2000).

However, the economic development in emerging market economies, which is a new definition of the development level of economies and nearly relating to the developing countries definition, boosts their roles in the world economy. In addition, the better fulfill of data have re-highlighted the interesting in investigating the effectiveness of fiscal policy by adding more methods and conditions into model for this group. For example, Cuadra *et al.* (2010) note that emerging market economies typically exhibit a pro-cyclical fiscal policy, where governments increase (decrease) expenditures in economic expansions (recessions) and rise (reduce) tax rates in bad (good) times. This situation is in line with the characteristic of counter-cyclical default risk in their business cycle. They also note that the incomplete markets and sovereign default risk premium have important roles in explaining the pro-cyclicality of public expenditures and tax rates in these economies. Therefore, the assumptions of Ricardian view are not existed that propose for the Keynesian or neo-classical views of fiscal policy.

No surprising that the debate on the role and the effectiveness of fiscal policy are continuous argued broadly in both literature and practice. Recently, Arestis (2011) notices that the "New Consensus in Macroeconomics," recent developments in macroeconomics and macroeconomic policy, downgrades fiscal policy's roles in contrasting with monetary policy due to its ineffective. Through a careful literature review and discussion at recent developments on the fiscal policy literature, he then concludes that fiscal policy does still have significant roles in economic policy through its impact on allocation, distribution

and stabilization. However, researchers and authorizers have to careful consider the assumptions in economic theories of fiscal policy's effectiveness as Ricardian and non-Ricardian economic existences, liquidity-constraints, and the endogenization of labor supply and capital accumulation. Meanwhile, other features of the economy should be considered in study the effectiveness of fiscal policy such as the institutional framework and the debt burden.

The dependence of fiscal policy's effectiveness on institutional aspects is discussed under the literature with two main strands including the inside and outside lags of effects and the political economy considerations (Hemming *et al.*, 2002). First, the fiscal policy has inside and outside lags, where the inside lags present the needed time to see that fiscal policy should changes, the outside lags are the function of the political process and the fiscal management that is the time for fiscal measures take effects on aggregate demand (Blinder and Solow, 1974). Due to the long time to design, approval, and implementation, the inside lag may be longer, while the outside lag is more variable depending on the institutional environment. Second, the fiscal policy is impacted by the political considerations such as the fiscal illusion of public and policy-makers, the favor of transferring current fiscal burden to future generations, the limitation of government due to the debt accumulation, the delay of fiscal consolidations due to the political conflicts, and the function of current budget institutions that leads to high spending.

The institution is defined as the social rules of the game (North, 1990), which includes "humanly devised," "the rules of the game" to set "constraints" on human behavior, and the economic incentives (see North, 1981; Acemoglu and Robinson, 2008). The better institutions reduce asymmetric information problem, transaction cost, and risk, while they improve the market efficiency, especially efficiency of asset allocation (Cohen *et al.*, 1983; Ho and Michaely, 1988; Williamson, 1981). Therefore, the better institutions should have positive associations with the effectiveness of fiscal policy since the lower asymmetric information problem, transaction cost, and higher market efficiency reduce both the inside and outside lags that then increase the efficiency of fiscal policy, especially the short-term effects.

The empirical literature in the field of fiscal policy had considered the role of institutional framework in some manners such as politics, democracy, economic freedom, and corruption in recent decades. Nelson and Singh (1998), for instance, argue that a democratic political system permits active in a voluntary way, at the same time it creates competitive market forces conditions for economic growth. They also emphasize that the ineffective democracy regimes in developing countries detriments the growth. Lockwood *et al.* (2001) add that the political pressures determine the path of government spending, taxations and borrowing in Greece in the period 1960-1972, which means the fiscal policy may not follow a long-term efficiency for the country. Martinez-Vazquez *et al.* (2007) notice that the elimination of corruption is not usually an economic objective for the development, but the frustration with the lack of effectiveness of traditional economic theories and the recognition of the important roles of institutions and good governance practices have led the more attention to the corruption. Precisely, Dimakou (2015) finds that corruption constrains the fiscal capacity in taxations and increases the inflationary reliance.

However, no comprehensive study has considered the fiscal policy's effectiveness under the institutional framework. More interesting, it lacks of empirical study in emerging market economies, which have more space in improving institutional quality and the economic growth. For example, the study of Aidt *et al.* (2008) document that corruption has a substantial negative impact on economic growth in high institutional quality economies, otherwise it has no impact on economic growth in low quality one. Ho *et al.* (2016) find that the improvement in country governance just enhances the effectiveness of banks and then promote the economic growth in developing countries, while it reduces these effects in developed countries due to smaller spaces for improvement. In addition, Wang *et al.* (2014)

argue that the improvements in institutional quality just have strong effects on promoting economic development only when institutional quality is within a certain range. Therefore, we can argued that the improvement in institutions has strong impacts on the effectiveness of fiscal policy in emerging market economies.

The debt burdens, on the other hand, are also concerned in the literature of fiscal policy effectiveness. According to the review of Hemming *et al.* (2002), the debt accumulation may be used as a strategic instrument to limit the fiscal capacity for future government, while the availability and cost of domestic and external borrowings are often major tackles on fiscal policy in developing countries. Thus, an emerging market economy with highly level of debts will determine the size of fiscal deficit in facing with more difficulties in assessing to international capital market (inaccessible or accessible with unfavorable terms), which then leads to the stronger crowding-out effects. Meanwhile, the low indebted countries have higher fiscal room for future government in implementing fiscal policy, which may undertake with the favorable terms of debt-financing, and that in turn promotes the crowding-in effects. Moreover, the individuals in high indebted countries are more sensitive to the government expenditures in following the framework of neo-classical views. The public may expect that the increasing of government expenditures in this case be in along with the less favorable terms of government's borrowings and less efficiency of spending, which then stimulate individuals to cut back their current consumption more and more. As a result, this proposes higher crowding-out effects of fiscal policy. In contrast, the individuals in low indebted countries may less sensitive to the government expenditures, especially through the debt-financing spending, since the interest rates are less responsive and they are easier to access the financial markets, thus the fiscal policy is argued with the existence of crowding-in effects.

According to Kirchner and Wijnbergen (2016), if banks hold substantially sovereign debt the effectiveness of expansionary fiscal is impaired since deficit-financed fiscal expansions reduce private access to credit in this case. Therefore, we use the total external debt, which includes public debt and private debt in this study to examine the impacts of debt on effectiveness of fiscal policy. This helps us consider the constraints of external debt of ability of private sector in accessing international financial markets. We argue that the expansionary fiscal policy in the highly indebted countries not only creates the crowding-out effects for the private sectors through the impacts on interest rates and exchange rates, but also crowds out the availability of private sectors in accessing into the international financial markets that creates more constraints for private sectors to implement economic activities. In contrast, these effects may not exist or less significance in the case of low indebted countries. As a summary, our hypothesis is argued that the relationship between fiscal policy with the economic growth is non-linear one as the positive effect in the low indebted level and the negative effect in the high indebted level.

In fact, the non-linear relationships between fiscal policy and economic factors are examined under some manners. Adam and Bevan (2005) investigate the relationship between fiscal deficits and economic growth for a panel of 45 developing countries and find evidence of a 1.5 percent GDP threshold deficit effect. They also find evidence that the deficits in line with high debt stocks exacerbates the adverse consequences of high deficits. While, Catão and Terrones (2005) examine inflation as non-linearly related to fiscal deficits through the sample of 107 countries over 1960-2001 period. They find a strong positive relationship between deficits and inflation among high-inflation and developing country groups, but it is not true among low-inflation advanced economies.

This fact suggests that we should consider the non-linear relationship between fiscal policy and economic growth in the emerging market economies. Emerging market economies are an emerging group of countries with interesting economic features in developing countries. While, the expected future revenue plays an important role in

explaining the low fiscal limits of developing countries relating to developed countries (Bi *et al.*, 2016). Therefore, the study of the relationships between institutions, external debts and the effectiveness of fiscal policy is more significant for both literature and practice. Next section presents the methodology and data.

3. Methodology and data

3.1 Methodology

In this paper, we recruit the common determinants of economic growth including capital, technology, labor, technology, capital flows, trade openness, and add the credit element for the basic model of economic growth from a vast of literature. With this beginning of basic model, we incorporate government expenditure to examine the impacts of fiscal policy on economic growth for 20 emerging market economies in the period 2002-2014, and follows the empirical model in Miller and Russek (1997):

$$g_{i,t} = \partial_1 g_{i,t-1} + \partial_2 gdppc_{i,t-1} + \alpha X_t + \beta_1 Govexg_{i,t} + \varepsilon_{t,s} \;\; with \;\; \varepsilon_s \sim i.i.d.N\left(0, \delta^2_{s,t}\right) \quad (1)$$

where i and t is country i at time t. g is GDP growth rate (*gdpg*) that proxies for the economic growth. The lag of g is put into the model to control for the dynamic of economic growth model, while the *gdppc* is logarithm of GDP per capita that presents for the starting economic development level. X is vector of control variables including: the capital investment factor that presented by the gross capital formation growth rate (*capg*); the labor factor that presented by the population growth rate (*popg*); the credit factor that presented by the logarithm of domestic credit to private sector by banks (credit); the technology factor that presented by the logarithm of total patent applications by both residents and non-residents (patent); the trade openness that presented by the logarithm of total trade to GDP (trade); and the capital flow that presented by the net inflows of foreign direct investment to GDP (*fdi*). *govexg* is the proxy for fiscal policy that presented by the general government final consumption expenditure growth rate. In this study, we use the government expenditure growth to proxy for the fiscal policy since it presents the changes in the fiscal policy, while the government revenue and tax have strong correlations with the government expenditure, thus in order to examine the fiscal policy effectiveness we only use the government expenditure. Even though the government expenditure can be best proxy for the fiscal policy.

All the definitions and sources of variables are presented in detail in Table I.

In next step, we also incorporate institutional factors into the model to investigate the effects of institutional quality on economic growth following the empirical model suggesting in Lee and Hong (2012). In this step, we collect three dimensions of institutions from World Governance Indicators (Worldbank) including the government effectiveness (*Goveff*), regulatory quality (*Regu*), and control of corruption (*Concor*) to proxy for the institutional framework, respectively. Despite of critics about bias or lack of comparability and the utility of institutional quality in World Governance Indicators (Thomas, 2010), there are many previous studies that use these indicators as the best proxies for institutional quality (see Zhang, 2016).

Next, we estimate the growth model with the explanatory variables including both external debt to GNI and its square to examine the non-linear relationship between external debt and economic growth. Basing on the results of these estimations, we then divide sample into two sub-samples basing on the level of external debt to GNI (see Table II). Then, we apply the previous procedures to two sub-samples separately to investigate the effectiveness of fiscal policy under two debt regimes.

Variables	Definitions	Sources
Dependent variables		
Gdpg	Real GDP growth rate (% annual)	WDI
Independent variables		
Control variables		
Gdppc	Logarithm of real GDP per capita	Calculation from WDI
Capg	Gross capital formation growth rate (% annual)	WDI
Popg	Population growth rate (% annual)	WDI
Credit	Logarithm of domestic credit to private sector by banks	Calculation from WDI
Patent	Logarithm of total patent applications by both residents and non-residents	Calculation from WDI
Trade	Logarithm of trade ratio to GDP (%)	Calculation from WDI
Fdi	Net inflows of foreign direct investment to GDP (%)	WDI
Debt	Ratio of External debt stock to GNI (%)	WDI
Explanatory variables		
Govexg	General government final consumption expenditure growth rate (% annual)	WDI
Goveff	Government effectiveness indicator	WGI
Regu	Regulatory quality indicator	WGI
Concor	Control of corruption indicator	WGI

Table I.
Variables, definitions and sources

3.2 Data

Our data are collected yearly from the period of 2002-2014 for 20 emerging countries[2] due to the time limitation in World governance indicators that have continuous data from 2002 to 2014. The government effectiveness, regulatory quality, and control of corruption are collected from World Governance Indicators, meanwhile all remained variables are collected from World Development Index (Worldbank). The data description is presented in Table II.

The data description shows that emerging market economies have high economic growth presenting by both average growth rates of GDP and GDP per capita. It is also noticed that they have high growth rate of investment in line with the target of FDI flows. Meanwhile, the institutional framework has wide space for improvement since their average levels are around the zero level (in the range from −2.5 to +2.5 in World governance indicators report). In addition, the governments in emerging market economies are almost under the expansionary phrases since their general government consumption growth rates are positive, but it may diversify among countries due to the high standard deviation.

4. Results and discussions

All our results are presented in the tables from Tables IV-VIII. In which, the estimators are presented with AR(2) test and Hansen/Sargan test depending on the first difference or system GMM methods. All the *p*-value of AR(2) test and Hansen/Sargan test are over 10 percent, which define the significance of GMM estimators as suggesting in Roodman (2009).

Model (1) in Table III shows the results for basic model of economic growth. The significant positive impact of lag economic growth to itself shows that the higher economic growth in current year creates better conditions for growth in next year. This is easy to understand that the higher economic growth rate provides more sources such as capital and incentives for economic activities. While, the significant negative effect of log of GDP per capita with lag on economic growth suggesting the convergence trend in economy among emerging market group. Other control variables including capital formation,

Variables	Obs.	Mean	SD	Min.	Max.
Full sample (20 emerging markets)					
Gdpg	260	4.898	3.177	−10.894	14.195
Gdppc	260	8.316	0.865	6.285	9.409
Capg	260	7.078	11.856	−41.000	48.406
Popg	259	1.055	0.797	−1.911	2.254
Credit	260	3.661	0.657	2.152	4.955
Patent	257	8.363	1.664	5.455	13.741
Trade	260	4.070	0.521	3.096	5.349
Fdi	260	3.112	3.114	−0.254	30.995
Debt	260	36.591	21.776	8.251	163.582
Govexg	260	4.818	4.794	−9.453	48.324
Goveff	260	−0.063	0.424	−0.870	1.250
Regu	260	−0.062	0.488	−1.100	0.840
Concor	260	−0.414	0.380	−1.490	0.580
8 emerging markets with the average external debt level under the 40% GNI including: Bangladesh, Brazil, China, Colombia, Egypt, India, Mexico, and South Africa					
Gdpg	104	5.090	3.033	−4.700	14.195
Gdppc	104	8.191	0.936	6.285	9.376
Capg	104	7.520	7.101	−13.330	31.741
Popg	104	1.301	0.405	0.479	2.254
Credit	104	3.750	0.581	2.564	4.955
Patent	103	9.015	2.016	5.666	13.741
Trade	104	3.787	0.304	3.096	4.289
Fdi	104	2.547	1.671	−0.205	9.344
Debt	104	22.466	8.172	8.251	47.676
Govexg	104	4.760	3.135	−1.190	13.880
Goveff	104	−0.090	0.385	−0.870	0.680
Regu	104	−0.097	0.469	−1.100	0.780
Concor	104	−0.393	0.395	−1.490	0.580
12 emerging markets with the average external debt level above the 40% GNI including: Argentina, Bulgaria, Indonesia, Malaysia, Pakistan, Peru, Philippines, Romania, Russia, Thailand, Turkey, and Vietnam					
Gdpg	156	4.770	3.272	−10.894	9.452
Gdppc	156	8.399	0.806	6.754	9.409
Capg	156	6.783	14.183	−41.000	48.406
Popg	155	0.889	0.941	−1.911	2.121
Credit	156	3.602	0.700	2.152	4.799
Patent	154	7.927	1.202	5.455	10.713
Trade	156	4.259	0.549	3.358	5.349
Fdi	156	3.489	3.741	−0.254	30.995
Debt	156	46.007	22.911	20.493	163.582
Govexg	156	4.858	5.645	−9.453	48.324
Goveff	156	−0.044	0.449	−0.810	1.250
Regu	156	−0.038	0.500	−1.080	0.840
Concor	156	−0.428	0.370	−1.130	0.480

Table II.
Data description

population growth, technology, foreign direct investment inflows, and trade openness have signs as expected by theories. It is easy to understand that the increasing of capital, labor, credit, inflow capital, trade openness, and innovations in technology have positive impacts on economic growth, especially in the case of emerging market economies that have space for all of these above drivers to contribute on growth. The results are consistent with literature and many previous empirical results. However, the insignificant positive effect of domestic credit on economic growth points out the argument that the financial markets in emerging market economies do not contribute enough to the growth.

Model	(1)		(2)	
Dep. var: *GDP growth*	Coef.	*p*-value	Coef.	*p*-value
Gdpg(−1)	0.204***	0.002	0.135***	0.021
Gdppc(−1)	−0.661***	0.000	−0.674***	0.000
Capg	0.249***	0.000	0.243***	0.000
Popg	0.614***	0.000	0.315***	0.004
Credit	0.197	0.595	0.171	0.627
Patent	0.401***	0.008	0.421***	0.002
Fdi	0.321***	0.000	0.366***	0.000
Trade	0.485*	0.091	0.460	0.121
Govexg			*0.116**	0.055
N	212		172	
No. of group	20		20	
AR(−2) test	−0.99	0.324	0.36	0.721
Sargan/Hansen test	17.45	0.180	16.74	0.211

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table III. Government expenditure and economic growth

With main explanatory variable, the growth rate of general government expenditure has significant positive effect on economic growth. This result suggests the existence of crowding-in effects of fiscal policy in the context of emerging market economies. Thus, our result supports for the Keynesian views of fiscal policy that the fiscal policy is needed to promote the economic growth in the emerging market economies since the sources for the growth from the private sectors are still limited at there and the roles of governments in creating the basic start for the development of other sectors. In addition, the public sectors still strongly present in emerging market economies through the state-owned enterprises so that the fiscal policy has significant impacts on the whole economy through its effects on public sectors.

The most important of our study, the impacts of institutions on the effectiveness of fiscal policy are examined and presented in Tables IV and V. The estimators prove that the improvement in institutions including aspects of government effectiveness, regulatory quality, and control of corruption enhances the effectiveness of fiscal policy in emerging market economies. In fact, all the interaction terms between government expenditure

Model	(3)		(4)		(5)	
Dep. var: *GDP growth*	Coef.	*p*-value	Coef.	*p*-value	Coef.	*p*-value
Gdpg(−1)	0.094**	0.034	0.097**	0.032	0.079	0.122
Gdppc(−1)	−0.742***	0.000	−0.590***	0.000	−0.681***	0.000
Capg	0.235***	0.000	0.238***	0.000	0.235***	0.000
Popg	0.347**	0.028	0.299*	0.064	0.391**	0.017
Credit	0.019	0.957	0.096	0.802	0.134	0.759
Patent	0.455***	0.000	0.373***	0.006	0.399***	0.009
Fdi	0.438***	0.000	0.464***	0.000	0.483***	0.000
Trade	0.623*	0.089	0.424	0.238	0.407	0.417
Govexg	0.128**	0.017	0.099*	0.063	0.118**	0.017
Goveff	*−0.915***	*0.035*				
Regu			*−0.918***	*0.040*		
Concor					*−0.969**	*0.088*
N	172		172		172	
No. of group	20		20		20	
AR(−2) test	0.38	0.707	0.56	0.574	0.45	0.654
Sargan/Hansen test	17.90	0.161	18.24	0.149	17.23	0.189

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table IV. Institutions and economic growth

Model	(6)		(7)		(8)	
Dep. var: *GDP growth*	Coef.	*p*-value	Coef.	*p*-value	Coef.	*p*-value
Gdpg(−1)	0.051	0.534	0.050	0.457	0.081	0.298
Gdppc(−1)	−0.715***	0.000	−0.662***	0.000	−0.693***	0.001
Capg	0.225***	0.000	0.230***	0.000	0.232***	0.000
Popg	0.675***	0.000	0.391**	0.016	0.350*	0.097
Credit	−0.312	0.340	0.032	0.930	0.004	0.994
Patent	0.510***	0.002	0.380**	0.011	0.385*	0.078
Fdi	0.526***	0.000	0.569***	0.000	0.520***	0.000
Trade	0.673**	0.049	0.593*	0.081	0.227	0.688
Govexg	0.142**	0.041	0.099*	0.074	0.438***	0.007
Goveff	−2.277**	0.024				
Govexg × Goveff	*0.320***	*0.024*				
Regu			−1.907***	0.001		
Govexg × Regu			*0.193***	*0.015*		
Concor					−3.597**	0.032
Govexg × Concor					*0.528***	*0.011*
N	212		172		192	
No. of group	20		20		20	
AR(−2) test	−1.10	0.272	0.84	0.399	−0.70	0.483
Sargan/Hansen test	16.38	0.229	17.03	0.198	14.49	0.340

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table V.
Institutions, government expenditure and economic growth

growth rate with each institutional indicator have positive impacts on economic growth. These results confirm our arguments that the better institutional framework helps boosting the effect of fiscal policy. This fact suggests that the better institutional quality reduces the crowding-out effects (reduces neo-classical effects) and promotes the crowding-in effects (enhances the Keynesian effects) of fiscal policy in emerging market economies. This finding has strong contributions to both literature of fiscal policy and practice in implementing fiscal policy in the context of emerging market economies. The essential requirements for the more effective fiscal policy are macro-measures to improve the institutional environment. This result also recommends that the empirical study in the field of fiscal policy should consider the institutional framework of countries that would be a potential explanatory factor. We then incorporate the external debt into the economic growth model to test the non-linear relationship. The results are provided in Table VI.

The significant positive coefficient of external debt level and significant negative coefficient of square of external debt level suggest that the external debt and economic growth has a non-linear relationship. This result is consistence with our discussion and theory, which shows strong implications for the long-term fiscal policy consolidations. Whereas, the government has to implement fiscal consolidation for the long-term sustainability of the economy. The negative coefficient of square of external debt level means that the external debt is in line with the higher economic growth when it is in low level; it is in line with lower economic growth when it is in high one. This result also requires deeper investigation for the mechanism of this non-linear relationship. The results in Tables VII and VIII provide us some interesting explanations.

By dividing the sample into two sub-samples: the low indebted countries (group 1) and high indebted countries (group 2) and regress the impacts of government expenditure and institutions on economic growth. We find that the increasing in government expenditure in group 1 has significant positive impact on economic growth, while it has insignificant negative impact in the group 2. The results suggest that the fiscal policy is effectiveness in stimulating the economic growth when countries have low debt burden, but it loses the

Model	(9)		(10)	
Dep. var: *GDP growth*	Coef.	*p*-value	Coef.	*p*-value
Gdpg(−1)	0.132**	0.037	0.164**	0.028
Gdppc(−1)	−0.873***	0.000	−0.922***	0.000
Capg	0.248***	0.000	0.253***	0.000
Popg	0.585***	0.000	0.630***	0.000
Credit	0.050	0.897	0.150	0.692
Patent	0.630***	0.001	0.736***	0.000
Fdi	0.407***	0.000	0.437***	0.000
Trade	0.197	0.694	−0.590	0.215
Govexg	0.092	0.336	0.113	0.107
Debt	*0.031***	*0.030*	*0.116****	*0.002*
Debt^2			*−0.001***	*0.039*
N	172		212	
No. of group	20		20	
AR(−2) test	0.44	0.661	−1.05	0.293
Sargan/Hansen test	16.29	0.234	15.79	0.260

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table VI.
External debt stock and economic growth

Model	(11) 8 countries with average debt < 40%		(12) 12 countries with average debt > 40%	
Dep. var: *GDP growth*	Coef.	*p*-value	Coef.	*p*-value
Gdpg(−1)	0.030	0.761	0.173**	0.044
Gdppc(−1)	−1.018***	0.000	−0.407*	0.059
Capg	0.291***	0.000	0.193***	0.000
Popg	−0.306	0.618	0.807**	0.015
Credit	0.712*	0.063	−1.512**	0.049
Patent	0.386***	0.001	0.286	0.180
Fdi	0.104	0.663	0.026	0.864
Trade	1.205**	0.048	2.069**	0.015
Govexg	*0.122**	*0.068*	*−0.077*	*0.299*
N	78		126	
No. of group	8		12	
AR(−2) test	−1.01	0.312	−0.31	0.759
Sargan/Hansen test	24.48	0.140	25.81	0.172

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table VII.
Government expenditure and economic growth under two debt level regimes

effectiveness when countries face to high burdens of external debt. These findings are consistence with literature and our arguments. This means that the high indebted countries have less fiscal room and the unfavorable terms in accessing the international financial markets, while the high level of external debt creates constraints for the private sectors so that their fiscal policies present the crowding-out effects. We believe that the findings have significant contributions for literature, especially for the practice of fiscal policy. In addition, the results in Table VIII provide us additional interesting facts. While the fiscal policy is more effectiveness in the low indebted countries, the institutions are more effective in promoting economic growth in high indebted countries. This result suggests a very useful measure for the high indebted countries that they should not promoted to use the fiscal policy to stimulating economic growth, otherwise they must improve the institutional framework. As stated in previous findings, the fiscal policy presents crowding-out effects in the high indebted countries so that they face to the

Model	(13)		(14)		(15)	
Dep. var: *GDP growth*	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Gdpg(−1)	0.021	0.169**	0.013	0.161*	0.016	0.158*
Gdppc(−1)	−0.987***	−0.422*	−0.881***	−0.557**	−0.894***	−0.569**
Capg	0.293***	0.192***	0.290***	0.189***	0.271***	0.189***
Popg	−0.705	0.801**	−0.713	0.906***	−0.690	0.782**
Credit	0.443	−1.606*	0.370	−1.925**	0.538	−1.904**
Patent	0.470***	0.310	0.413***	0.507	0.402***	0.536*
Fdi	0.133	0.028	0.211	0.062	0.254	0.039
Trade	1.325**	2.142**	1.308**	2.282***	1.061*	2.367***
Govexg	*0.106*	*−0.076*	*0.082*	*−0.078*	*0.084*	*−0.078*
Goveff	*−1.081***	*0.072*				
Regu			*−1.074***	*0.667*		
Concor					*−1.331***	*0.963*
N	78	126	78	126	86	126
No. of group	8	12	8	12	8	12
AR(−2) test (*p*-value)	0.314	0.752	0.360	0.723	0.193	0.716
Sargan/Hansen test (*p*-value)	0.173	0.159	0.116	0.171	0.143	0.199

Note: *,**,***Significant 10, 5 and 1 percent levels, respectively

Table VIII.
Institutions, government expenditure and economic growth under two external debt level regimes

dilemma if they want to use fiscal policy to promote economic growth: they want to use the fiscal policy but they have less fiscal room, while they are under the burden of external debts and it makes fiscal policy less effective. Therefore, the rightful choice in this situation is institutional improvement and revolution.

5. Conclusion

This study collects the annual data from World Governance indicators and World Development Indicators of Worldbank for 20 emerging markets in the period 2002-2014 to examine the effectiveness of fiscal policy in the relationships with institutional framework and external debt burden. Applying the endogenous growth model with the common elements of economic growth including labor, capital, technology, credit, trade openness, and capital flow, we then incorporate the government expenditure to investigate the effective of fiscal policy. As our most notable contributions, we examine the impacts of institutions on the effectiveness of fiscal policy through the interaction terms between government expenditure and institutional indicators including government effectiveness, regulatory quality, and control of corruption. In addition, we examine the non-linear relationship between external debt and economic growth, where this relation is investigated more detail for its mechanism through the fiscal policy. Through GMM estimators for panel data, the study presents some meaningful findings.

First, the fiscal policy presents the crowding-in effects in emerging market economies in the period of 2002-2014. This result confirms the important role of fiscal policy in the case of emerging market economies, it is also consistence with our arguments and theory of Keynesian views. In fact, the emerging market economies present with the low level of capital accumulations, the low level of financial development so that the interest rates may not be too sensitive with the fiscal policy, while the fiscal policy is essential to build the basic infrastructure for the economic activities of private sectors. Thus, the fiscal policy is effective in promoting economic growth. This result suggests that Vietnam should consider the fiscal policy as an effective policy in tackling the downturn of the economic growth. Second, even the fiscal policy has positive effects on economic growth; the study finds interesting evidences that fiscal policy loses this effect in the case of high indebted countries. The results have significant contributions to both

theories and practice. Whereas, the external debt creates constraints for the effectiveness of fiscal policy, especially in the case of high indebted countries. This relationship may explain the mechanism for the non-linear relationship between external debt and economic growth. Third, we find evidences that the improvement in institutions boosts the effectiveness of fiscal policy. This notable finding has very useful contributions to literature and implications for the practice in the case of emerging market economies. In which, the institutions under aspects of government effectiveness, regulatory quality, and control of corruption enhance the positive impacts of government expenditure on economic growth. In addition, the empirical results also suggest us essential measures for the government in dilemma of ineffective fiscal policy when they are in high indebted level that they should focus on the institutional improvement, which enhances the effectiveness of fiscal policy in one hand, it has positive impacts directly on economic growth on the other hand.

Notes

1. See Hemming *et al.* (2002) for the more detail summary.
2. In total, 20 emerging markets are defined in introduction section and the number of emerging market economies is due to the availability of data.

References

Acemoglu, D. and Robinson, J. (2008), *The Role of Institutions in Growth and Development*, *World Bank*, Washington, DC.

Adam, C.S. and Bevan, D.L. (2005), "Fiscal deficits and growth in developing countries", *Journal of Public Economics*, Vol. 89 No. 4, pp. 571-597, available at: http://dx.doi.org/10.1016/j.jpubeco.2004.02.006

Afonso, A. and Strauch, R. (2007), "Fiscal policy events and interest rate swap spreads: evidence from the EU", *Journal of International Financial Markets, Institutions and Money*, Vol. 17 No. 3, pp. 261-276, available at: http://dx.doi.org/10.1016/j.intfin.2005.12.002

Ahmed, H. and Miller, S.M. (2000), "Crowding-out and crowding-in effects of the components of government expenditure", *Contemporary Economic Policy*, Vol. 18 No. 1, pp. 124-133.

Aidt, T., Dutta, J. and Sena, V. (2008), "Governance regimes, corruption and growth: theory and evidence", *Journal of Comparative Economics*, Vol. 36 No. 2, pp. 195-220, available at: http://dx.doi.org/10.1016/j.jce.2007.11.004

Amato, A. and Tronzano, M. (2000), "Fiscal policy, debt management and exchange rate credibility: lessons from the recent Italian experience", *Journal of Banking & Finance*, Vol. 24 No. 6, pp. 921-943, available at: https://doi.org/10.1016/S0378–4266(99)00112–0

Arestis, P. (1979), "The 'crowding-out' of private expenditure by fiscal actions: an empirical investigation", *Public Finance = Finances publiques*, Vol. 34 No. 1, pp. 36-50.

Arestis, P. (2011), "Fiscal policy is still an effective instrument of macroeconomic policy", *Panoeconomicus*, Vol. 58 No. 2, pp. 143-156.

Bal, D.P. and Rath, B.N. (2014), "Public debt and economic growth in India: a reassessment", *Economic Analysis and Policy*, Vol. 44 No. 3, pp. 292-300, available at: https://doi.org/10.1016/j.eap.2014.05.007

Baldacci, E., Hillman, A.L. and Kojo, N.C. (2004), "Growth, governance, and fiscal policy transmission channels in low-income countries", *European Journal of Political Economy*, Vol. 20 No. 3, pp. 517-549.

Barro, R.J. (1974), "Are government bonds net wealth?", *Journal of Political Economy*, Vol. 82 No. 6, pp. 1095-1117.

Barro, R.J. (1989), "The Ricardian approach to budget deficits", *Journal of Economic Perspectives*, Vol. 3 No. 2, pp. 37-54.

Bertola, G. and Drazen, A. (1993), "Trigger points and budget cuts: explaining the effects of fiscal austerity", *The American Economic Review*, Vol. 83 No. 1, pp. 11-26.

Bhattarai, K. and Trzeciakiewicz, D. (2017), "Macroeconomic impacts of fiscal policy shocks in the UK: a DSGE analysis", *Economic Modelling*, Vol. 61, pp. 321-338.

Bi, H., Shen, W. and Yang, S.-C.S. (2016), "Fiscal limits in developing countries: a DSGE approach", *Journal of Macroeconomics*, Vol. 49, pp. 119-130, available at: https://doi.org/10.1016/j.jmacro.2016.06.002

Blinder, A.S. and Solow, R.M. (1974), "Analytical foundations of fiscal policy".

Bouakez, H., Chihi, F. and Normandin, M. (2014), "Measuring the effects of fiscal policy", *Journal of Economic Dynamics and Control*, Vol. 47, pp. 123-151, available at: http://dx.doi.org/10.1016/j.jedc.2014.08.004

Buiter, W.H. (1977), " 'Crowding out' and the effectiveness of fiscal policy", *Journal of Public Economics*, Vol. 7 No. 3, pp. 309-328, available at: http://dx.doi.org/10.1016/0047–2727(77)90052–4

Catão, L.A.V. and Terrones, M.E. (2005), "Fiscal deficits and inflation", *Journal of Monetary Economics*, Vol. 52 No. 3, pp. 529-554, available at: http://dx.doi.org/10.1016/j.jmoneco.2004.06.003

Coddington, A. (1976), "Keynesian economics: the search for first principles", *Journal of Economic Literature*, Vol. 14 No. 4, pp. 1258-1273.

Cohen, K.J., Hawawini, G.A., Maier, S.F., Schwartz, R.A. and Whitcomb, D.K. (1983), "Friction in the trading process and the estimation of systematic risk", *Journal of Financial Economics*, Vol. 12 No. 2, pp. 263-278.

Cuadra, G., Sanchez, J.M. and Sapriza, H. (2010), "Fiscal policy and default risk in emerging markets", *Review of Economic Dynamics*, Vol. 13 No. 2, pp. 452-469, available at: https://doi.org/10.1016/j.red.2009.07.002

Davis, J.B. (2006), "The turn in economics: neoclassical dominance to mainstream pluralism?", *Journal of Institutional Economics*, Vol. 2 No. 1, pp. 1-20.

Dimakou, O. (2015), "Bureaucratic corruption and the dynamic interaction between monetary and fiscal policy", *European Journal of Political Economy*, Vol. 40, Part A, pp. 57-78, available at: https://doi.org/10.1016/j.ejpoleco.2015.07.004

Doğan, İ. and Bilgili, F. (2014), "The non-linear impact of high and growing government external debt on economic growth: a Markov regime–switching approach", *Economic Modelling*, Vol. 39, pp. 213-220, available at: https://doi.org/10.1016/j.econmod.2014.02.032

Easterly, W., Rodriguez, C.A. and Schmidt-Hebbel, K. (1994), *Public Sector Deficits and Macroeconomic Performance*, The World Bank, Washington, DC.

Fleming, J.M. (1962), "Domestic financial policies under fixed and under floating exchange rates", *Staff Papers*, Vol. 9 No. 3, pp. 369-380.

Giavazzi, F., Jappelli, T. and Pagano, M. (2000), "Searching for non-linear effects of fiscal policy: evidence from industrial and developing countries", *European Economic Review*, Vol. 44 No. 7, pp. 1259-1289.

Haque, N.U. and Montiel, P. (1989), "Consumption in developing countries: tests for liquidity constraints and finite horizons", *The Review of Economics and Statistics*, Vol. 71 No. 3, pp. 408-415.

Hemming, R., Kell, M. and Mahfouz, S. (2002), "The effectiveness of fiscal policy in stimulating economic activity: a review of the literature", Working Paper No. WP/02/208, IMF, Washington, DC.

Heutel, G. (2014), "Crowding out and crowding in of private donations and government grants", *Public Finance Review*, Vol. 42 No. 2, pp. 143-175.

Ho, T.S. and Michaely, R. (1988), "Information quality and market efficiency", *Journal of Financial and Quantitative Analysis*, Vol. 23 No. 1, pp. 53-70.

Ho, P.-H., Lin, C.-Y. and Tsai, W.-C. (2016), "Effect of country governance on bank privatization performance", *International Review of Economics & Finance*, Vol. 43, pp. 3-18.

Jahan, S., Mahmud, A.S. and Papageorgiou, C. (2014), "What is Keynesian economics", *Finance & Development*, Vol. 51 No. 3, pp. 53-54.

Kameda, K. (2014a), "Budget deficits, government debt, and long-term interest rates in Japan", *Journal of the Japanese and International Economies*, Vol. 32, pp. 105-124, available at: http://dx.doi.org/10.1016/j.jjie.2014.02.001

Kameda, K. (2014b), "What causes changes in the effects of fiscal policy? A case study of Japan", *Japan and the World Economy*, Vol. 31, pp. 14-31, available at: http://dx.doi.org/10.1016/j.japwor.2014.04.003

Kasselaki, M.T. and Tagkalakis, A.O. (2016), "Fiscal policy and private investment in Greece", *International Economics*, Vol. 147, pp. 53-106, available at: https://doi.org/10.1016/j.inteco.2016.03.003

Khan, M.S. and Knight, M.D. (1981), "Stabilization programs in developing countries: a formal framework", *Staff Papers*, Vol. 28 No. 1, pp. 1-53.

Kirchner, M. and Wijnbergen, S.V. (2016), "Fiscal deficits, financial fragility, and the effectiveness of government policies", *Journal of Monetary Economics*, Vol. 80, pp. 51-68, available at: https://doi.org/10.1016/j.jmoneco.2016.04.007

Lee, J.-W. and Hong, K. (2012), "Economic growth in Asia: determinants and prospects", *Japan and the World Economy*, Vol. 24 No. 2, pp. 101-113, available at: http://dx.doi.org/10.1016/j.japwor.2012.01.005

Lockwood, B., Philippopoulos, A. and Tzavalis, E. (2001), "Fiscal policy and politics: theory and evidence from Greece 1960-1997", *Economic Modelling*, Vol. 18 No. 2, pp. 253-268, available at: https://doi.org/10.1016/S0264–9993(00)00038–9

McCallum, B.T. (1984), "Are bond-financed deficits inflationary? A Ricardian analysis", *Journal of political economy*, Vol. 92 No. 1, pp. 123-135.

Martinez-Vazquez, J., Boex, J. and Arze del Granado, J. (2007), "Corruption, fiscal policy, and fiscal management", in Martinez-Vazquez, J., Boex, J. and Arze del Granado, J. (Eds), *Fighting Corruption in the Public Sector*, Emerald Group Publishing Limited, pp. 1-10.

Masson, P.R., Bayoumi, T. and Samiei, H. (1995), "Saving behavior in industrial and developing countries", *Staff Studies for the World Economic Outlook*, IMF working papers, Washington, DC, pp. 1-27.

Miller, S.M. and Russek, F.S. (1997), "Fiscal structures and economic growth: international evidence", *Economic Inquiry*, Vol. 35 No. 3, pp. 603-613.

Montiel, P. and Haque, N.U. (1991), "Dynamic responses to policy and exogenous shocks in an empirical developing country model with rational expectations", *Economic Modelling*, Vol. 8 No. 2, pp. 201-218.

Mundell, R.A. (1963), "Capital mobility and stabilization policy under fixed and flexible exchange rates", *Canadian Journal of Economics and Political Science/Revue canadienne de economiques Et Science Politique*, Vol. 29 No. 4, pp. 475-485.

Nelson, M.A. and Singh, R.D. (1998), "Democracy, economic freedom, fiscal policy, and growth in LDCs: a fresh look", *Economic Development and Cultural Change*, Vol. 46 No. 4, pp. 677-696.

North, D.C. (1981), *Structure and Change in Economic History*, Norton.

North, D.C. (1990), *Institutions, Change and Economic Performance*, Cambridge University.

Roodman, D. (2009), "How to do xtabond2: an introduction to difference and system GMM in stata", *The Stata Journal*, Vol. 9 No. 1, pp. 86-136.

Ruščáková, A. and Semančíková, J. (2016), "The European debt crisis: a brief discussion of its causes and possible solutions", *Procedia – Social and Behavioral Sciences*, Vol. 220, pp. 399-406, available at: https://doi.org/10.1016/j.sbspro.2016.05.514

Şen, H. and Kaya, A. (2014), "Crowding-out or crowding-in? Analyzing the effects of government spending on private investment in Turkey", *Panoeconomicus*, Vol. 61 No. 6, pp. 631-651.

Sutherland, A. (1997), "Fiscal crises and aggregate demand: can high public debt reverse the effects of fiscal policy?", *Journal of Public Economics*, Vol. 65 No. 2, pp. 147-162.

Thomas, M.A. (2010), "What do the worldwide governance indicators measure and quest", *European Journal of Development Research*, Vol. 22 No. 1, pp. 31-54.

Wang, Y., Cheng, L., Wang, H. and Li, L. (2014), "Institutional quality, financial development and OFDI", *Pacific Science Review*, Vol. 16 No. 2, pp. 127-132, available at: http://dx.doi.org/10.1016/j.pscr.2014.08.023

Williamson, O.E. (1981), "The economics of organization: the transaction cost approach", *American Journal of Sociology*, Vol. 87 No. 3, pp. 548-577.

Zhang, S. (2016), "Institutional arrangements and debt financing", *Research in International Business and Finance*, Vol. 36, pp. 362-372, available at: http://dx.doi.org/10.1016/j.ribaf.2015.10.006

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