

# QUALITY OF PUBLIC FINANCE AND ECONOMIC GROWTH IN THE CZECH REPUBLIC

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## Abstract

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Quality of public finances belongs to a key policy challenge as its improvement should lead to a long-term economic growth. The aim of the paper is to investigate if the key channels and tools used by the public finance (structure of revenue system, size of the government and composition of expenditure, level and sustainability of fiscal position) affect economic growth in the Czech Republic in the period 1995–2013. The empirical model is based on the methodology of Barro and Sala-i-Martin (2003) and the model of Mankiw et al. (1992) which is adapted to the framework of this study. The results of dynamic regressions suggest that economic growth is affected by public finance variables only partly and traditional sources of economic growth (human capital or openness) play bigger role. Provided evidence shows that total tax burden as well as the structure of revenue system (especially implicit tax rates on labour and consumption) should be primarily used as tools for maintain macroeconomic objectives. On the contrary, changes in size and composition of expenditure, balance and debt report not statistically significant impact.

Keywords: public finance; economic growth; revenue; expenditure; fiscal position; governance; efficiency

## INTRODUCTION

The quality of public finance is one of the crucial economic matters as it comprises all important tasks and goals of public sector and public finance and its improvement should lead to supporting long-term economic growth. Therefore, analysis of its conception as well as used channels and tools (structure of revenue system, size of the government, composition and efficiency of expenditure, level and sustainability of fiscal position, fiscal governance) is of critical importance for both the economic theory and economic policy. The quality of public finance (QPF) is a multidimensional concept. QPF may be defined as signifying all the arrangements and operations regarding the financial politics that sustain the macroeconomic objectives, particularly the long-term economic growth. In contrast to past discussions on the short-term impact of fiscal policy on aggregate demand, QPF focuses on fiscal policy's role for raising the long-run growth

potential. Improving the quality of public finance is a major challenge for governments and European policy makers as establishment of Working Group on Quality Public Finances confirms. At the same time, the European Commission conducted its own analytical work in a number of QPF areas, in part to support the QPF Working Group. Both focused predominantly on the link between the composition of public expenditure and growth, the role of fiscal governance and expenditure efficiency. In the literature, one can also find a large set of theoretical and empirical analysis in all of the above and additional areas (e.g. taxation and growth). Unfortunately, the global downturn and financial crisis have moved the focus of governments on other issues and concentrated the effort especially on budget consolidation and the activity of QPF Working Group nearly disappeared (the last paper was published in 2009).

We agree with Conte et al. (2009) who state that the economic crisis has increased budgetary pressures and accentuated the tension between the need to sustain public spending aimed at raising the EU growth potential and the increased scarcity of public resources.

Previously published studies often analyze influence of fiscal and public finance variables on economic growth separately and they are weakly supported by the data particularly in emerging and post-transition economies. The motivation of the article is to eliminate the literature gap in this field and analyze public finance in the Czech Republic. The aim of the paper is to investigate if the key channels and tools used by the public finance affect economic growth in the Czech Republic in the period 1995-2013. The growth regression considers GDP as a function of a set of fiscal variables and several non-fiscal determinants suggested by the literature. The empirical model is based on the methodology of Barro and Sala-i-Martin (2003) and the model of Mankiw *et al.* (1992) which is adapted to the framework of this study. The paper is organized as follows. First, we summarize basic theoretical background. Next, we describe the dataset and empirical techniques used. Then, we estimate impact of selected variables on a long-term economic growth. Finally, we conclude with a summary of key findings.

## Theoretical Background and Literature Review

As written above, the quality of public finance (QPF) is a multidimensional concept. Responding to the importance of quality of public finance, the Working Group on Quality of Public Finances was formed in 2004, as a sub-committee to the Economic Policy Committee (EPC). Its objective is to analyze the links between public finances and long-term potential growth. The Working Group on QPF and Barrios and Schaechter (2008) identify next main channels throughout the economic growth might be stimulated and recommend focuses on:

- the efficiency, and effectiveness of public expenditures, by exploring the scope for further analyses of efficiency and effectiveness across Member States and the EU in different areas of public spending and participating in work streams in various international fora to improve the measurement of public sector output and efficiency/effectiveness,
- the structure and efficiency of public revenues, by regular economic analysis of revenue trends and reforms of tax systems, and
- fiscal governance frameworks, by regular reviews, strengthening the analysis and exchanging views on the institutional framework for improving the efficiency and effectiveness of public finances. The overall aim is to improve the understanding of the different approaches used to underpin public budgets.

The size of governments tends to matter for economic growth, especially if large public sectors are combined with short-comings in other dimensions of QPF. It is clear that the size of the public sector reflects past and current political choices that go beyond the macroeconomic goal of sustained economic growth. On average, empirical studies find that when governments become too large they tend to hamper long-run growth as these development is often accompanied by higher tax burdens and inefficient public administrations.

Sound and sustainable fiscal positions are preconditions for growth over the medium and long run. The EU's fiscal framework draws on this link which is also confirmed by empirical work. The estimates substantiate earlier findings of a negative relation between public debt and growth, but the issue of endogeneity of debt and deficits to growth conditions should not be overlooked. When looking in more detail at the channels through which fiscal policies influence economic growth by using a growth-accounting approach, the evidence tends to suggest that in countries with poor fiscal performance, private investment is less of a driver of growth. This indicates a possible crowding-out effect. European Commission (2015) points out that the role of fiscal policy in stabilizing the economy can only be effective if Member States are in a sound fiscal position, thus allowing automatic fiscal stabilizers to operate fully.

Hagen (2011) writes while both the size of the public sector and the debt/deficit can impair growth, an important conditioning factor is the composition and efficiency of public expenditure. Both theoretical and empirical research indicates that growth can be supported when public expenditure is oriented towards investment. This can be particularly relevant for investment in human capital, technical progress (R&D spending) and public infrastructure. However, evidence also suggests that the link between the amount of spending in these areas and economic growth is not automatic, but depends largely on the ability to achieve the envisaged outcomes (e.g. higher education attainment, more private investment in R&D) and overcoming existing market failures without creating new distortions. Thus, high efficiency and effectiveness of public spending are key to maximizing the potential of government outlays and creating fiscal space for other demands.

Barrios and Schaechter (2008) state that structure and efficiency of revenue systems can be a factor for long-run growth. Since the tax structure affects labour supply and demand, incentives for investment, risk taking and human capital formation, it can hamper growth potential by creating various distortions. In addition to lowering the overall tax burden, which would have to go hand in hand with expenditure reforms, adapting tax structures in a revenue-neutral manner is a further important policy option. Such efficiency-enhancing

tax reforms should also make tax systems more transparent and link them better to benefit systems.

Good fiscal governance can facilitate structural reforms and is beneficial for all dimensions of public finances. Fiscal governance represents the institutional side of fiscal policy as it comprises the set of rules and procedures that determine how public budgets are prepared, executed and monitored. The importance of fiscal governance has been confirmed in empirical studies, including studies conducted by the European Commission, which have found that EU Member States with strong fiscal rules, medium-term budgetary frameworks and independent budgetary institutions, have exhibited stronger budgetary positions and have been more successful in fiscal consolidations.

Taxation or government expenditure impact on economic growth is the topic of many studies, see e.g. Kotlán *et al.* (2011), Macek and Janků (2015), Szarowská (2013, 2016) or Gemmel *et al.* (2011) who state that the impact of fiscal variables on economic growth is ambiguous and depends on their nature.

There is voluminous literature on the effects of taxes on the economy and its rate of growth (Barro and Sala-i-Martin, 2003; Mendoza *et al.*, 1994; Leibfritz *et al.*, 1997). Myles (2009) reviewed different production functions and effects of taxation on GDP and economic growth. However, using statistical data for comparing levels of taxation and economic performance does not provide unequivocal conclusions (Zipfel and Heinrichs, 2012). Many studies present negative relationships between taxes and economic growth and recommend lowering tax rates. Plosser (1992) found a significant negative correlation between the level of taxes on income and profits (as a share of GDP) and growth of real per capita GDP. King and Rebelo (1990) simulated changes in the income tax by applying an endogenous growth model and find that an increase from 20% to 30% reduces the rate of growth by 2 p.p. Also Romero-Ávila and Strauch (2008) stated that government consumption and direct taxation negatively affect growth rates of GDP per capita in the EU-15 in the last 40 years. Johansson *et al.* (2008) investigated the design of tax structures to promote economic growth. Corporate taxes were found to be most harmful for growth, followed by personal income taxes, and then consumption taxes. Recurrent taxes on immovable property appear to have the least impact. Lee and Gordon (2005) explored how tax policies in fact affect a country's growth rate, using cross-country data during 1970–1997. They found that statutory corporate tax rates are significantly negatively correlated with cross-sectional differences in average economic growth rates. Karras and Furceri (2009) examined the effects of changes in taxes on economic growth. Using annual data from 1965 to 2003 for a panel of 19 European economies, the results show that the effect of an increase in taxes on real GDP per capita is negative and persistent. The findings also imply that increases in social security contributions or taxes

on goods and services have larger negative effects on per capita output than increases in income tax. Prammer (2011) summarized indications on how taxation might influence growth relevant decisions. Taxes on labour can affect decisions in three major ways by altering: i) the allocation of time between labour and leisure ii) human capital accumulation iii) occupational and entrepreneurial behaviour and choices. Labour taxes can also affect labour supply decisions, both concerning the decision to participate in the labour market and the amount of hours worked (García *et al.*, 2011; Szarowská, 2013; Johansson *et al.*, 2008).

We can find studies, which highlight the fact that a concentration of the public expenses in areas that stimulate the economic growth and a more efficient use of the public resources are key methods for sustaining the economic growth. The government expenditure is also an important tool for national governments to mitigate the uneven economic development and economic shocks across individual countries. As Abbot and Jones (2011) note, government expenditure plays important role in a fiscal policy of each country as a possible automatic stabilizer. Also Halaskova and Halaskova (2014) deal with public finances, with focus on public expenditures in EU countries. Serven (1998) points that procyclical fiscal policy is generally regarded as potentially damaging for welfare: if a government does not respect a basic prescription that fiscal tools should function counter-cyclical, the fiscal policy may also produce a large deficit bias and lead to debt unsustainability and eventual default. Contrary to the theory, many of empirical studies found evidence that government expenditure is procyclical, see Hercowitz and Strawczynski (2004), Rajkumar and Swaroop (2008) for more details. Talvi and Vegh (2005) show that fiscal procyclicality is evident in a much wider sample of countries. However, Fiorito and Kollintzas (1994) document for G7 countries, the correlation between government consumption and output indeed appears to show no pattern and be clustered around zero.

Afonso *et al.* (2005) consider that fiscal policy's quality and supporting-growth character are given by providing an institutional environment that stimulates economic growth and sound public finances, limiting commitments to the essential role of providing public goods and services, setting growth promoting incentives for the private sector and using efficiently the public resources, financing public activities by an efficient and stable tax system, supporting macroeconomic stability through stable and sustainable fiscal policies.

Romero-Ávila and Strauch (2008) answer the question whether public finance reform can affect trend growth in the EU-15. Focusing on time series patterns, they investigate whether there have been persistent trends in economic growth and fiscal variables over the last 40 years. The estimate a distributed lag model, which indicates that government size measured either with total

expenditure or revenue shares, government consumption and direct taxation negatively affect growth rates of GDP per capita, while public investment has a positive impact.

Ferreiro *et al.* (2009) report that literature on fiscal policy is paying increasing attention to the impact of the composition of public expenditures on long-term economic growth. Public policy endogenous growth models recommend to change the composition of public expenditures to items considered as productive expenditures. Based on these models, European institutions are encouraging to increase the share of outlays, such as public investments, research and development, active labor market policies, and so on. Their paper analyzes whether a convergence to a new pattern of public finances with a higher share of productive expenditures is arising in the euro zone.

Coutinho *et al.* (2010) point out that discussions on fiscal policy were primarily centered on the functions of economic stabilization, income redistribution and resource allocation until the early 1990's. Long-term growth was not usually viewed as an end itself, and fiscal policy was often not sufficiently tailored to the different circumstances and priorities of countries at different stages of development. Based on the conceptual framework for linking the QPF and economic growth that has been developed by the European Commission and applied to the EU Member States, this study examines the conditions under which the budgetary policy, and more specifically expenditure, revenue and financing design would be supportive of growth in the Mediterranean EU countries. The main findings can be summarized as follows. The way government expenditures are financed matters. Deficit and debt financing clearly undermines growth performance. The composition of expenditure does matter however the efficiency of the expenditure undertaken is even more important for growth. For countries with good governance indicators the positive impact of the productive expenditures on growth was enhanced.

Alesina (2010, 2013) presents the evidence on episodes of large stances in fiscal policy, in cases of both fiscal stimuli and fiscal adjustments in OECD countries from 1970 to 2007. He concludes that fiscal stimuli based on tax cuts are more likely to increase growth than those based on spending increases. As for fiscal adjustments, those based on spending cuts and no tax increases are more likely to reduce deficits and debt over GDP ratios than those based on tax increases. In addition, adjustments on the spending side rather than on the tax side are less likely to create recessions.

In line with Soroceanu and Lupașcu (2011), to promote a growth and employment orientated and efficient allocation of resources, Member States should redirect the composition of public expenditure towards growth-enhancing categories in line with the Lisbon strategy, adapt tax structures to strengthen growth potential, ensure that

mechanisms are in place to assess the relationship between public spending and the achievement of policy objectives, and ensure the overall coherence of reform packages.

Obreja-Brasoveanu (2011) notes that the size and the quality of public sector is a reflection of the past and current political decisions. Ex-communist countries face the challenge of reconstructing the public sector, in order to correspond to the requirements of the market economy, but also to ensure a stable macroeconomic and social environment. Her empirical results sustain the following conclusions: public expenditure has a negative impact on economic growth; a part of the governance indicators are relevant for economic development; the significant variables for the economic development that have positive effects are health public expenditures, recreation, culture and religion, environment protection.

Afonso and Jalles (2013) assess the fiscal composition-growth nexus, using a large country panel, accounting for the usually encountered econometric pitfalls. Their results show that revenues have no significant impact on growth whereas expenditures have negative effects. Expenditure on education and health boosts growth; and there is weak evidence supporting causality running from expenditures and revenues to output.

Very important is report done by Deroose and Kastrop (2008) who drawn attention to the fact that analysis of the quality of public finance is incomplete without addressing the efficiency and effectiveness of public expenditure. Available empirical evidence on specific spending categories (in particular, impact assessments in the case of innovation and human capital formation) shows that spending inefficiencies can be high so this kind of assessment requires suitable evaluation methods and tools to provide policy-makers with a better understanding of the impact of their policies.

## MATERIALS AND METHODS

We combine different data sources to obtain an unbalanced data set that includes period from 1995 to 2013 (the longest available time series). It is not possible to use higher frequently time series data as implicit tax rates as well as tax quota are reported only annually. The data are collected from the Economy and Finance database available on the Eurostat website, OECD database and Czech Statistical Office. The software E-Views (9) is used for estimations. The analysis uses LS Least Squares (NLS and Arma). The model below includes for GDP a lag of one period, as is usual in this type of studies (Arnold *et al.*, 2011; Machová and Kotlán, 2013; Drobiszová and Machová, 2015).

The growth regression considers GDP as a function of a set of fiscal variables and several non-fiscal determinants suggested by the literature (human capital, working-age

population growth, openness of economy). The empirical model is broadly based on the methodology of Barro and Sala-i-Martin (2003) and the neo-classical model of Mankiw *et al.* (1992) adapted to the framework of this study. Generally, the analysis is performed by estimating a dynamic model specified in:

$$GDP_t = \alpha_0 + \alpha_1 GDP_{t-1} + \alpha_2' G_t + \alpha_3' T_t + \alpha_4' S_t + \alpha_5' C_t + \varepsilon_t$$

where  $\alpha_1$  to  $\alpha_5$  contain the coefficients assigned to the independent variables, and  $\alpha_0$  is a constant; the subscript  $t$  indexes the year;  $GDP$  is dependent variable;  $G$  is a vector of government expenditure variables;  $T$  is a vector expressing tax burden and revenues;  $S$  is a vector of fiscal sustainability indicators;  $C$  is a vector of control variables; and  $\varepsilon$  is the error term. The series for  $GDP$  are converted into logs.

Used variables are specified as follows.  $GDP$  means GDP growth per capita expressed by the amount of real GDP per capita in purchasing power parity.  $GOV$  expresses total government expenditure as a % of GDP,  $FCF$  means Gross fixed capital formation in % GDP.  $RINV$  is capital accumulation approximated by the indicator of proportion of real investment to GDP, expressed in purchasing power parity per one resident. Taxation variables include total revenue over GDP ( $TQ$ ) and the implicit tax rates as proxies of tax wedges on consumption ( $ITR_C$ ), labour ( $ITR_L$ ), and capital ( $ITR_K$ ). The implicit tax rate on consumption is computed as the sum of revenues from consumption taxes on goods and services divided by the sum of private

and government consumption. The implicit tax rate on capital includes corporate profit taxes, taxes on household capital income, and various property taxes. The implicit tax rate on labour is computed as the sum of taxes on labour income, revenues from social security contributions, and revenues from payroll taxes divided by labour. As indicators of the sustainability of fiscal policy we consider the  $DEBT$  and  $BALANCE$  ratio (expressed as debt to GDP and balance to GDP).

In order to perform some robustness checks, we include in the empirical model two additional variables:  $POP$  as human capital which is approximated by the total level of economic activity in % (alternatively  $WP$  – the economic activity rate of persons aged 15–64 in %) and  $OPENNESS$  as a measure of openness of economy (import plus export divided by GDP).

## RESULTS AND DISCUSSION

European Commission's concept of quality of public finance is focuses on fiscal policy's role for raising the long-run growth potential and active using of fiscal tools. In order to test whether key channels and tools used by the public finance affect economic growth in the Czech Republic, there are estimated econometric models based on the neoclassical growth model of Mankiw *et al.* (1992) which is adapted to the framework of this study. The growth regression considers  $GDP$  as a function of a set of fiscal variables and several non-fiscal determinants and a basic form is expressed in equation (1).

I: Regression Estimations (Least Squares)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>C</b>	2.391***	3.487**	1.813	2.177***	2.958***	2.084***
<b>lgGDP(-1)</b>	0.619***	0.497**	0.679a	0.629***	0.532***	0.649***
<b>GOV</b>	-0.181		-0.187			
<b>GOV(-1)</b>		-0.019				
<b>ITR_C</b>			0.012c			0.006**
<b>ITR_L</b>			-0.007c			-0.007***
<b>ITR_K</b>			0.001			
<b>TQ</b>	0.009**			0.009***		
<b>TQ(-1)</b>		0.003			0.006**	
<b>BALANCE</b>	-0.001	-0.004	-0.007			
<b>DEBT</b>	-0.001	-0.001	-0.002			
<b>POP</b>	-0.018**	-0.026**	-0.017	-0.016***	-0.021	-0.017***
<b>OPENNESS</b>	0.071	0.058**	0.105	0.069***	0.096***	0.046*
<b>Adjusted R2</b>	0.992	0.988	0.991	0.993	0.989	0.993
<b>S.E. of regression</b>	0.008	0.010	0.009	0.008	0.009	0.008
<b>Sum squared resid</b>	0.001	0.001	0.001	0.001	0.001	0.001
<b>F-statistic</b>	305.197	193.164	199.854	593.305	397.191	294.162
<b>Durbin-Watson stat</b>	2.475	2.141	2.296	1.826	2.2694	2.050
<b>Observation</b>	19	19	19	19	19	19

Note: symbols \*, \*\*, \*\*\* denote statistical significance on 10%, 5%, 1% level, respectively

We use alternative variables in followed groups – *GOV*, *FCF* and *RINV* as government expenditure variables, tax burden and revenue variables (*TQ* and implicit tax rates), and control variables (*POP* and *WP*), but Tab. I presents only results for one variable (e.g. only *GOV* instead of *GOV*, *FCF* and *RINV*) except a case of revenue variables as findings of other were similar from economic and econometric point of view and bring nearly the same conclusion.

First, we include all variables theoretically affected economic growth into equation and we estimate Model 1. In line with Coutinho *et al.* (2010), we include the first lag of government expenditures to GDP ratio to account for the size of the government in Model 2. We also include the first lag of the revenues to GDP ratio to control the way in which fiscal policy is financed. There is a large body of literature that shows that balanced-budget fiscal expansions should have a different impact on output than debt-financed fiscal expansions (see Perotti, 2007). It is not possible consider more lags due to short time series. Model 3 is based on substitution *TQ* by implicit tax rates. As Szarowska (2013) notices and with respect to literature above, it is possible to expect that some taxes are more conducive to growth than others. Capital taxes cause very negative on growth. Labour taxes are less growth conducive; strong progressivity of income tax rates is regarded as particularly negative in this context. Consumption taxes are compatible with growth as they have small effect on decisions by economic agents regarding growth factors. Due to the negative growth effect of labour and capital taxes, it can be expected that in a growth-conducive system the tax burden of taxes on these factors should be kept lower in relation to consumption taxes.

In all three models, one can find insignificant influence of expenditure variable and fiscal sustainability indicators on economic growth. These findings are surprising as capital accumulation is usually statistically significant growth variable. The same results can be find in Szarowska (2016) or Fiorito and Kollintzas (1994). Anyway, coefficients are negative what means that expenditure was counter-cyclical and similar evidence can be found in Abbot and Jones (2011) or in Serven (1998). As expected, the coefficient of the fiscal sustainability indicators are negative, as large debt to GDP (as well as deficit to GDP) could signal higher interest rates, tighter access to finance, and the crowding out of private investment.

Next, statistically insignificant variables were reduced with the aim increased a quality of model. Results in Models 4-5 suggest positive impact of tax quota increase, what can be explained that higher tax revenue were used in a growth-conducive way. Both control variables are significant. The coefficient associated with openness is positive as expected. Openness captures the various benefits that are related to openness such as those that are responsible for the success of export-led growth,

increased competitiveness that result from lower protection and economies of scale, as well as the attractiveness of the country for foreign direct investment and related access to modern technology. Contrary, coefficient expressing human capital *POP* (also alternatively *WP* - the economic activity rate of persons aged 15-64 in %) approximated by the total level of economic activity in percentage is negative, although it is one of the direct growth determinants with positive effect. We can guess that increase of economic activity is connected with decrease of productivity and that's why reports negative influence on economic growth.

The last Model 6 examines implicit tax rates and it is the most appropriate. The equation can be written as:

$$\lg GDP_t = 2.084 + 0.649 * \lg GDP_{(t-1)} + 0.006 * ITR\_C_t - 0.007 * ITR\_L_t - 0.017 * POP_t + 0.0463 * OPENNESS_t$$

It is possible to conclude that consumption taxes are less distortive than labour taxes. That is because part of consumption is made from accumulated assets, which are a relatively inelastic tax base. Moreover, consumption taxation includes environmental taxes which can help to internalise externalities and generate at the same time tax revenues. Negative effect of labour taxes on economic growth, especially potential harmful impact of corporate taxes, present many studies such as Myles (2009), Johansson *et al.* (2008), Prammer (2011). However, the exact impact of labour taxes on economics and on a labour market depends on the labour demand elasticity, the degree of centralization of the wage bargaining and the distribution of incomes among different income levels (look at Loretz, 2008). Our results are in line with the findings of other empirical studies on impact of taxes and economic growth, such as Mendoza *et al.* (1994), Johansson *et al.* (2008), Garcia *et al.* (2011) or Garnier *et al.* (2013), but they partly differ from findings of Romero-Ávila and Strauch (2008), Karras and Furceri (2009) or Zipfel and Heinrichs (2012). The variety is generated due to differences used in econometric models, country samples, observation periods and considered variables.

The results of empirical evidence suggest that economic growth is affected by public finance variables only partly and traditional sources of economic growth (human capital or openness) play bigger role in the Czech Republic in the period 1995–2013.

## CONCLUSION

The main aim of this paper was to investigate if the key channels and tools used by the public finance (structure of revenue system, size of the government and composition of expenditure, level and sustainability of fiscal position) affect economic growth in the Czech Republic in the period 1995–2013. Although many studies suggest that improving public finance and changes in basic fiscal variables significantly affect economic growth, our research does not prove that conclusively.

The empirical verification is based on the methodology of Barro and Sala-i-Martin (2003) and the model of Mankiw *et al.* (1992) which is adapted to the framework of this study. The GDP growth is considered as a function of set of fiscal variables and several non-fiscal determinants suggested by the literature. We used and examined government expenditure variables, tax burden and revenue variables, fiscal sustainability indicators; and we included also variables of human capital and openness in order to perform some robustness checks.

We alternatively used different government expenditure variables (total government expenditure, gross fixed capital formation or indicator of proportion of real investment to GDP), but influence on GDP was not statistically significant in any case. Anyway, coefficients report counter-cyclical development of expenditure. Surprisingly, improvement of fiscal position (expressed by decrease of debt ratio and budget deficit) also does not affect economic performance statistically significant. Contrary, provided evidence shows that total tax burden as well as the structure of revenue system (especially implicit tax rates on labour and consumption) have impact on economic development (consumption taxes have positive and labour taxes distortive effect) and can support long-term economic growth.

When we focus on possible impact of analysed variables on quality of public finance, which is defined as all arrangements and operations regarding the financial politics that sustain the macroeconomic objectives, predominantly the long-term economic growth, we can conclude that tax quota and implicit tax rates on labour and consumption should be primarily used as tools for achieving this goal. Hence, policy makers should deeper focus on structure of revenue system and decreasing tax burden. Although changes in size and composition of expenditure, balance and debt report not statistically significant impact, efforts to improve them should continue due their importance for maintain macroeconomic objectives. Anyway, the results suggest that economic growth is affected by public finance variables only partly and traditional sources of economic growth (human capital or openness) play bigger role.

Next research could be focused on deeper analysis of the efficiency and effectiveness of public expenditure, sustainability of fiscal position and quality of fiscal governance with aim to explain our results which partly differ from theoretical expectation.

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